REPORT

OF THE

STATE DEPARTMENT

OF

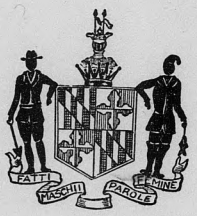
FORESTRY

UNIVERSITY OF MARYLAND

FOR

FISCAL YEARS 1931 AND 1932

OCTOBER 1, 1930, TO SEPTEMBER 30, 1932



LIBRARY, UNIVERSITY OF MARYLAND
BALTIMORE, MARYLAND

STATE DEPARTMENT OF FORESTRY

BOARD OF REGENTS

SAMUEL M. SHOEMAKER, *Chairman*
JOHN E. RAINE
JOHN M. DENNIS, *Treasurer*
GEORGE M. SHRIVER
HENRY HOLZAPFEL, JR.
E. BROOKE LEE
W. W. SKINNER, *Secretary*
CHARLES C. GELDER
WILLIAM P. COLE, JR.

ADVISORY BOARD OF FORESTRY

JOSEPH S. AMES
EDWARD B. MATHEWS
J. O. SNYDER
NORMAN JAMES
*DECOURCY W. THOM
†J. HARRIS FRANKLIN

*Deceased, 1932.
†Unexpired term, DeC. W. Thom.

RAYMOND A. PEARSON, *President*, University of Maryland

STATE FORESTER'S OFFICE

1411 Fidelity Building, Baltimore, Md.

F. W. BESLEY ..... *State Forester*
KARL E. PFEIFFER ..... *Assistant State Forester*
WALTER J. QUICK, JR. ..... *Assistant Forester*
FRED B. TRENK, Resigned Jan., 1931 ..... *Assistant Forester*
RICHARD KILBOURNE, Appointed Jan., 1931 ..... *Assistant Forester*

NELLIE E. WHITCRAFT ..... *Executive Secretary*
ROSLYN L. PERINO ..... *Senior Stenographer*
ELVA L. LEWIS ..... *Junior Stenographer*
MARGARET V. ROMOSER ..... *Clerk*

DISTRICT FORESTERS

H. C. BUCKINGHAM ..... Cumberland, Md.
C. F. WINSLOW ..... Laurel, Md.
KENNETH J. SEIGWORTH ..... Salisbury, Md.

RESIDENT FOREST WARDENS

A. L. SINES ..... Swallow Falls State Forest, Oakland, Md.
MATTHEW ELLIS MARTIN ..... Savage River State Forest, Grantsville, Md.
M. CARLTON LOHR ..... Potomac State Forest, Deer Park, Md.
DAVID O. PRINCE ..... Patapsco State Forest, Ilchester, Md.
G. C. MANN ..... Fort Frederick State Forest, Big Pool, Md.
ROBERT O'KEEFFE ..... Doncaster & Cedarville State Forests, Waldorf, Md.

SILAS SINES ..... *Superintendent*, State Forest Nursery, College Park, Md.

TABLE OF CONTENTS

	Page
Introduction	7
Assistance to Woodland Owners	8
State Forest Nursery	9
State Forests	10
Shade Tree Activity	14
Investigations and Research	15
Education	16
Forest Protection	17
The Organization	18
Fire Control Forces	20
Cooperation	21
Private Owners	21
Federal Government	21
Adjoining States	22
The Counties	24
Frederick City	25
Volunteer Fire Companies	26
Industries and Institutes	26
Other Agencies	27
Fire Prevention	28
Fire Warning Posters	28
News Articles	28
Railroad Fire Hazards	29
Claim Collections	29
Other Agencies	30
Fire Preparedness	31
Fire Detection System	31
Telephone Connections	31
Forest Fire Tools	32
Forest Wardens' Conferences	34
Fire Line Construction	34
Other Improvements	35
Forest Fires in 1931 and 1932	35
Forest Fire Tables	40
Financial Statement	50
Land Purchase and Tower Construction	52

APPENDIX

Page

Woodland Examinations (1931) ---------- 53
Summary ---------- 53

Woodland Examinations (1932) ---------- 54
Summary ---------- 54

Timber Marking (1931 and 1932) ---------- 55
Summary ---------- 55

Timber Estimates ---------- 55
Summary ---------- 55

Thinning Demonstrations ---------- 56
Summary ---------- 56

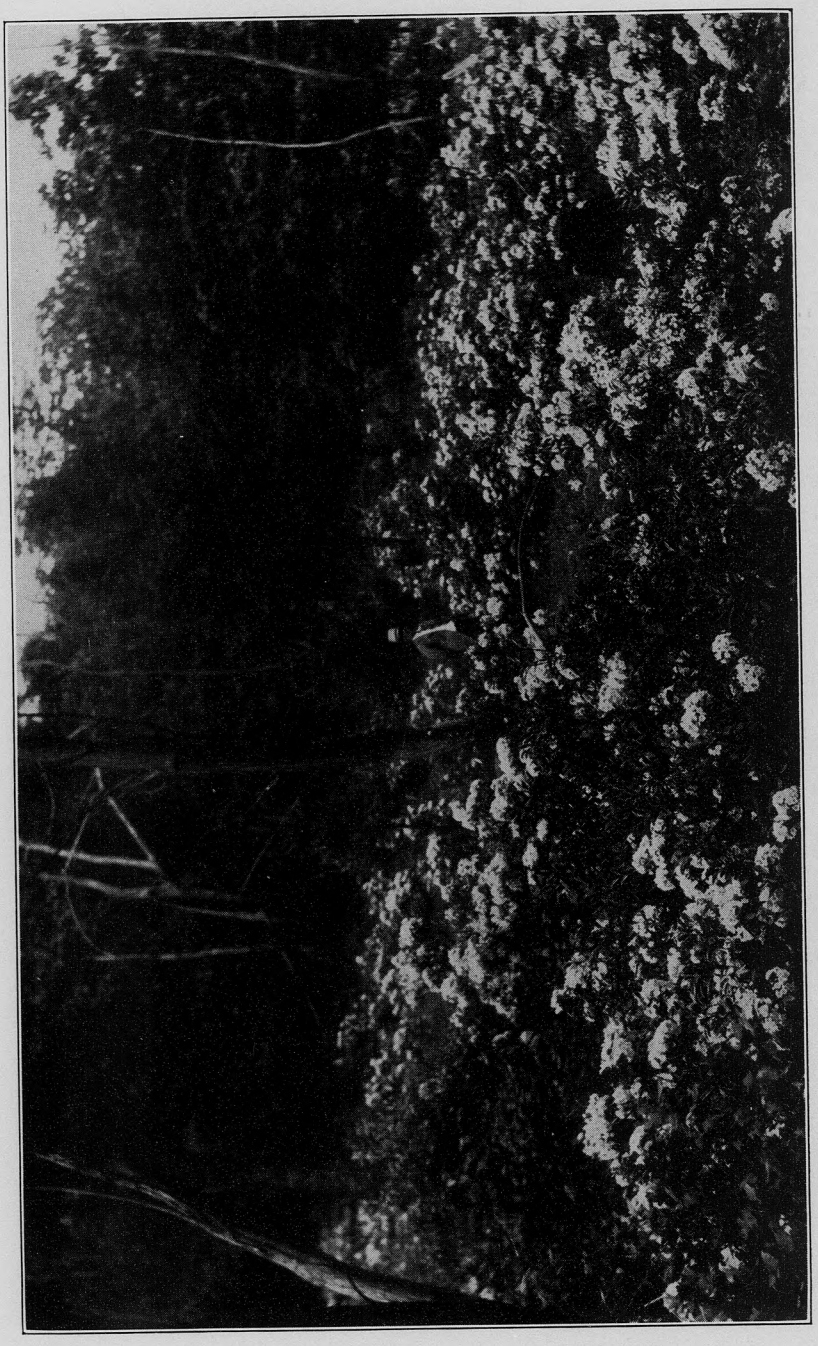
Planting Plans (1931) ---------- 56
Summary ---------- 56

Planting Plans (1932) ---------- 57
Summary ---------- 57

Lectures ---------- 58

LIST OF ILLUSTRATIONS

		Page
Plate I.	Frontispiece—Mountain Laurel	6
Plate II.	Fig. 1—Two-Year Old Pine Seedlings	13
	Fig. 2—Loblolly Pine Plantation 55 Years Old	13
Plate III.	Fig. 1—Recreational Area Along Elk Lick	23
	Fig. 2—Fighting Forest Fires	23
Plate IV.	Fig. 1—Forest Fire Fighting Equipment	33
	Fig. 2—Forest Road and Fire Line	33
Diagram—	Fires by Causes in Relation to Acreage Burned	37
Diagram—	Fires by Causes in Relation to Number	37
Diagram—	Fires by Causes in Relation to Damage	37
Diagram—	Comparison of Annual Forest Fire Record	39



Mountain Laurel on the Green Ridge State Forest, Allegany County.

Mountain Laurel on the Green Ridge State Forest, Allegany County.

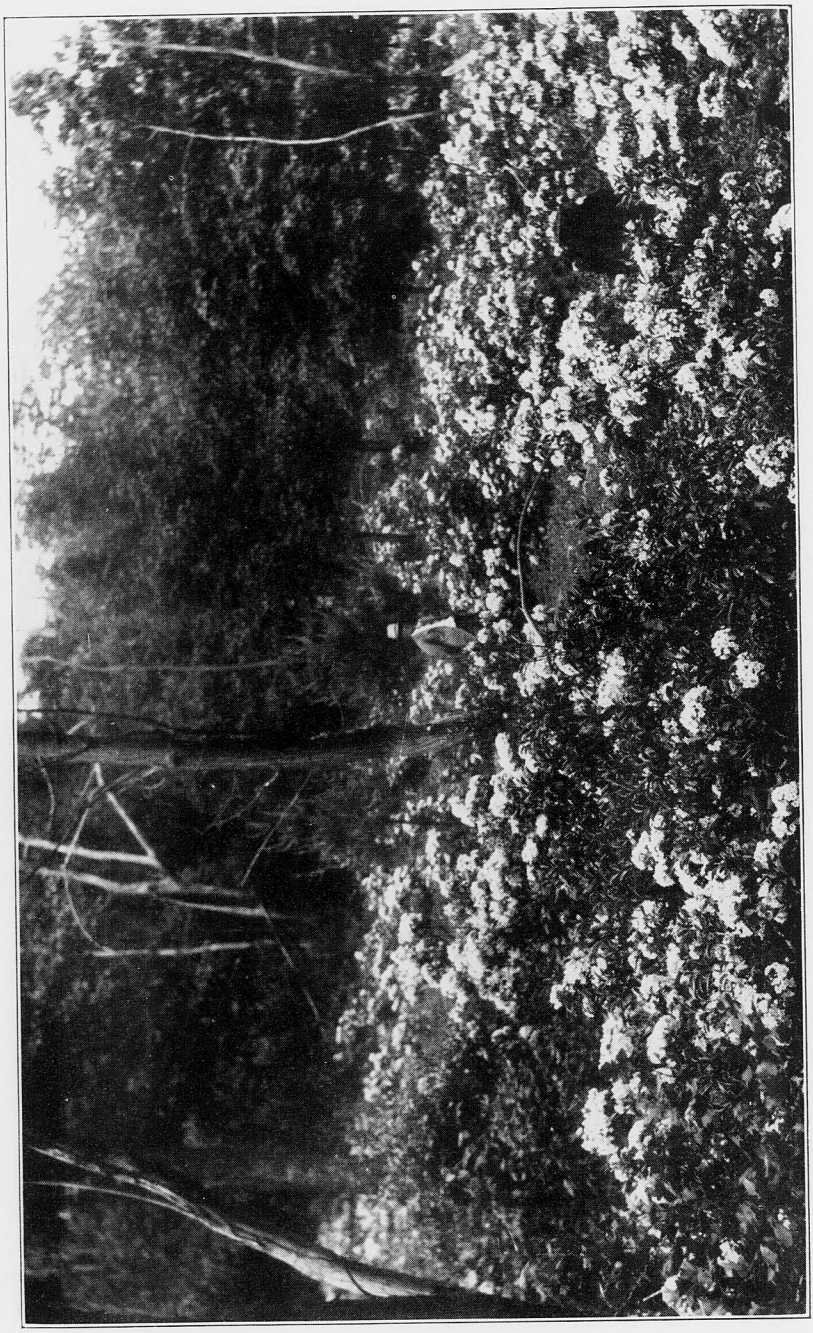
INTRODUCTION

THIS REPORT for the biennium 1931 and 1932 presents in summarized form the principal activities of the State Department of Forestry for the past two years. It is gratifying to record that, notwithstanding the adverse conditions generally prevailing during this period, forestry work is able to show very substantial progress. There has been a diminution of certain activities, such as the cooperative work with woodland owners in selective marking and marketing of timber, due to a slump in the timber market; and a slight falling off in forest planting, both the result of the condition of the times. The slowing up in these respects, however, is more than offset by the increased activities in extending and improving the forest protection system and in developing State Forests.

Four new fire lookout towers have been built, greatly increasing the efficiency of the service in quickly detecting forest fires, and this supplemented by an increased number of forest guards to respond quickly to fire calls has resulted in confining fires to a smaller acreage. The size of the average fire in 1931 was 26 acres, and in 1932, 13 acres. The 1932 record is the best for the 26 years of organized forest protection, notwithstanding the fact that there were 1,265 forest fires for the year, which is regarded as a normal year.

The past two years have been noteworthy in the acquisition and development of State Forests. During this period 26,275 acres of forest land have been purchased and added to the existing State Forests, bringing the total area on September 30, 1932, to 48,947 acres.

The growing interest in the care of shade and ornamental trees is indicated by the increasing number of requests for advice and assistance in handling shade and ornamental tree problems. Roadside planting, for the beautification of highways, has received increased attention. Special encourage-



Mountain Laurel on the Green Ridge State Forest, Allegany County.

INTRODUCTION

THIS REPORT for the biennium 1931 and 1932 presents in summarized form the principal activities of the State Department of Forestry for the past two years. It is gratifying to record that, notwithstanding the adverse conditions generally prevailing during this period, forestry work is able to show very substantial progress. There has been a diminution of certain activities, such as the cooperative work with woodland owners in selective marking and marketing of timber, due to a slump in the timber market; and a slight falling off in forest planting, both the result of the condition of the times. The slowing up in these respects, however, is more than offset by the increased activities in extending and improving the forest protection system and in developing State Forests.

Four new fire lookout towers have been built, greatly increasing the efficiency of the service in quickly detecting forest fires, and this supplemented by an increased number of forest guards to respond quickly to fire calls has resulted in confining fires to a smaller acreage. The size of the average fire in 1931 was 26 acres, and in 1932, 13 acres. The 1932 record is the best for the 26 years of organized forest protection, notwithstanding the fact that there were 1,265 forest fires for the year, which is regarded as a normal year.

The past two years have been noteworthy in the acquisition and development of State Forests. During this period 26,275 acres of forest land have been purchased and added to the existing State Forests, bringing the total area on September 30, 1932, to 48,947 acres.

The growing interest in the care of shade and ornamental trees is indicated by the increasing number of requests for advice and assistance in handling shade and ornamental tree problems. Roadside planting, for the beautification of highways, has received increased attention. Special encourage-

ment is given by the Department in furnishing suitable trees for the purpose at less than cost. The State Roads Commission has done a considerable amount of roadside planting with trees from the State Nursery, as have also civic organizations and public-spirited individuals.

The trimming of trees along the highways under the provisions of the Roadside Tree Law, which the Department administers, has been carried out as in former years with public satisfaction.

The greater number of calls for illustrated lectures on forestry topics, addresses at public meetings, exhibit material for use in schools, and forestry literature and information on a great variety of subjects, indicates a widening public interest in all forest activities.

ASSISTANCE TO WOODLAND OWNERS

The market for forest products in the past two years was less active than in 1930, and there has been little opportunity to dispose of timber at a fair price. For this reason the requests for assistance in disposing of standing timber have lessened. However, there have been requests for assistance, which was given, on 26 tracts in 13 counties, totaling 1,481 acres in 1931, and on 27 tracts in 13 counties, totaling 3,057 acres in 1932. Advice on handling the woodland was given to the owner or his agent on the ground, and detailed plans for management were written up and sent to him.

In addition to this, a careful selection, marking estimate, and valuation report was made on two tracts in two counties, totaling 105 acres in 1931, and on three tracts in two counties, totaling 79 acres, in 1932. One other tract of 35 acres was estimated and valued in 1931, but not marked.

By means of this system of cooperation with the owners of woodland, which assures the owner of a plan of management, the Department feels that it can demonstrate and put before the people of the State the best methods of good forestry practice.

A detailed summary of this work is to be found in the appendix.

LIBRARY, UNIVERSITY OF MARYLAND

STATE FOREST NURSERY

The State Forest Nursery, located on the grounds of the University of Maryland at College Park, covers approximately ten acres. The Nursery was established in the spring of 1914 for the purpose of growing and distributing at cost small seedlings or transplants for reforestation. There are 180,000 acres of land in the State, mostly abandoned farm lands unsuited for agricultural use, which are not naturally restocking in a satisfactory way. Such land is better adapted for growing timber than for any other use, but cannot be made fully productive for this purpose except by planting. The Forest Nursery is meeting that particular need by growing suitable stock, distributing it at growing cost or less.

The distribution of forest planting stock for 1931 was 281,400 trees, and for 1932, 334,860 trees. This is a considerable decrease in comparison with 1930, due to the very dry season of that year resulting in heavy losses, combined with the general depression.

For the past several years larger planting stock has been distributed for windbreak planting on farms. The distribution for 1931 was 56,200, and for 1932, 66,900.

The Roadside Tree Law, which is administered by the Forestry Department, provides for the planting of trees along public highways. There never has been any appropriation for growing the trees, or more than a small amount available for part of the overhead expenses of operating the Nursery, which therefore has to be practically self-supporting.

The distribution of planting stock from the State Forest Nursery has been further restricted to remove as far as possible any competition with the commercial nurseries of the State. Stock for windbreak planting is available only for use on operating farms in the State, and is to be used exclusively for bona fide windbreaks. Trees for roadside planting may be secured only by public institutions supported by taxation, or by landowners of the State for planting along a public highway on land upon which they reside. The Nursery does not produce ornamental stock, and limits its activities to the growing and distribution of trees for specific purposes, primarily of a public nature.

LIBRARY, UNIVERSITY OF MARYLAND

STATE FORESTS

	Acres	*Acres*
Garrett County		
Swallow Falls State Forest	4,535	
Prior to fiscal year 1931	3,967	
Biennium, 1931-1932	568	
Auxiliary State Forest		600
Savage River State Forest	16,329	
Prior to fiscal year 1931	16,178	
Biennium, 1931-1932	151	
Potomac State Forest	6,022	
Biennium, 1931-1932	6,022	
Allegany County		
Green Ridge State Forest	16,163	
Biennium, 1931-1932	16,163	
Washington County		
Fort Frederick State Forest	189	
Baltimore-Howard Counties		
Patapsco State Forest	1,116	
Auxiliary State Forest		1,200
Charles-Prince Georges Counties		
Cedarville State Forest	2,631	
Biennium, 1931-1932	2,631	
Charles County		
Doncaster State Forest	1,157	
Talbot County		
Seth Demonstration Forest	65	
Worcester County		
Pocomoke State Forest	740	
Biennium, 1931-1932	740	
Total	48,947	1,800

The organic law creating the Forestry Department in 1906 provided for the acquisition of land for state forests. In fact, the principal urge for creating a Forestry Department at that time was to take over and administer some 2,000 acres of forest land which was offered to the State as a gift, provided an agency be created to administer it.

In 1912, a specific appropriation of $50,000. was provided for the purchase of the Patapsco State Forest and another of $8,500. for the purchase of Fort Frederick. Since then no appropriations were made until 1929 and 1930, when $50,000. was made available for the purpose, and again in 1931, when an additional $25,000. was voted.

These appropriations were made for the purchase of land anywhere in the State suitable for state forests, thereby establishing the policy of state forests purchase on a large scale. At the end of the fiscal year, 1932, there were 48,947 acres of state forests in 10 different units, located in nine counties, of which nearly 40,000 acres were purchased with the $75,000. available during the past four years.

Since the last report, four new state forest areas have been established and a total of 26,275 acres added to the State's holdings. The new areas created include, in Garrett County, the Potomac State Forest of 6,022 acres in 1930, 5,979 acres of which was purchased from the Manor Mining and Manufacturing Company, and 43 acres from Mrs. Elizabeth R. P. Hubbard, both located along the southeastern slope and on the crest of Backbone Mountain, near Kitzmiller.

In Allegany County, the Green Ridge State Forest of 16,163 acres was acquired, 1,737 acres of which were purchased from the George and Grove heirs in 1931, 394 acres from James B. Price, and 275 acres from Mrs. Queen E. Potts. These three tracts are to the east of Town Hill, near Little Orleans. In 1932, 1,980 acres were acquired from Herbert Carpenter. This land lies between the National Pike and the Pennsylvania line to the west of Fifteen Mile Creek. Later in the year, 11,777 acres were purchased from the Allegany Orchard Company, consisting of the remaining orchard lots and tracts of that company south of the National Pike, between Town Creek and the Potomac River.

A tract of 2,631 acres was acquired in the fall of 1930 from the Beta Realty Company, located partly in Prince Georges and partly in Charles County. This opened a new unit known as the Cedarville State Forest.

A unit was started in Worcester County known as the Pocomoke State Forest, consisting of 740 acres acquired from

Frank E. Hudson in 1932. This tract lies between the State Road and the Pocomoke River, west of Corkers Creek.

Besides these new units, the following pieces of land were added to the existing areas: The Offutt lots of 568 acres, purchased in 1931 from William R. Offutt, which adjoin the Skipnish area of the Swallow Falls unit, and three small areas, totaling 151 acres, on the Savage River unit.

Nothing was added to the Patapsco State Forest, the Fort Frederick State Forest, or the Seth Demonstration unit.

Two new full-time resident forest wardens were appointed as the result of examinations held by the State Employment Commissioner. One was for the Savage River State Forest, with headquarters at New Germany, and the other for the Potomac State Forest, headquarters at Bethlehem Chapel. The other areas that do not have a regular resident forest warden are being taken care of by the district forest wardens in charge of the districts in which the areas are located.

Definite plans have been made to divide all state forests into small blocks by means of roads and trails, making them accessible to the public and in case of fire. These blocks range from a few acres up to 100 acres, but eventually none will contain more than 50 acres.

During April and May of 1932, a crew of eight students from the Pennsylvania State College made a type and stand map of the upper part of the Savage River State Forest, as part of their forestry course in practical field work.

In July, 1932, a school for the instruction of Resident Forest Wardens was held at Herrington Manor. Various phases of the state forest work were discussed and practical methods demonstrated.

Recreation was again the main use of the state forests during the biennium, many campers using the Western Maryland areas. Only one small timber sale was handled, and this was for dead chestnut only.

Figure 1—Two-Year Old Pine Seedlings at State Forest Nursery, College Park

Figure 2—Loblolly Pine Plantation, 55 Years Old, at Jesterville, Wicomico County. Trees now 90 Feet High, and 9 to 16 Inches in Diameter.

Frank E. Hudson in 1932. This tract lies between the State Road and the Pocomoke River, west of Corkers Creek.

Besides these new units, the following pieces of land were added to the existing areas: The Offutt lots of 568 acres, purchased in 1931 from William R. Offutt, which adjoin the Skipnish area of the Swallow Falls unit, and three small areas, totaling 151 acres, on the Savage River unit.

Nothing was added to the Patapsco State Forest, the Fort Frederick State Forest, or the Seth Demonstration unit.

Two new full-time resident forest wardens were appointed as the result of examinations held by the State Employment Commissioner. One was for the Savage River State Forest, with headquarters at New Germany, and the other for the Potomac State Forest, headquarters at Bethlehem Chapel. The other areas that do not have a regular resident forest warden are being taken care of by the district forest wardens in charge of the districts in which the areas are located.

Definite plans have been made to divide all state forests into small blocks by means of roads and trails, making them accessible to the public and in case of fire. These blocks range from a few acres up to 100 acres, but eventually none will contain more than 50 acres.

During April and May of 1932, a crew of eight students from the Pennsylvania State College made a type and stand map of the upper part of the Savage River State Forest, as part of their forestry course in practical field work.

In July, 1932, a school for the instruction of Resident Forest Wardens was held at Herrington Manor. Various phases of the state forest work were discussed and practical methods demonstrated.

Recreation was again the main use of the state forests during the biennium, many campers using the Western Maryland areas. Only one small timber sale was handled, and this was for dead chestnut only.

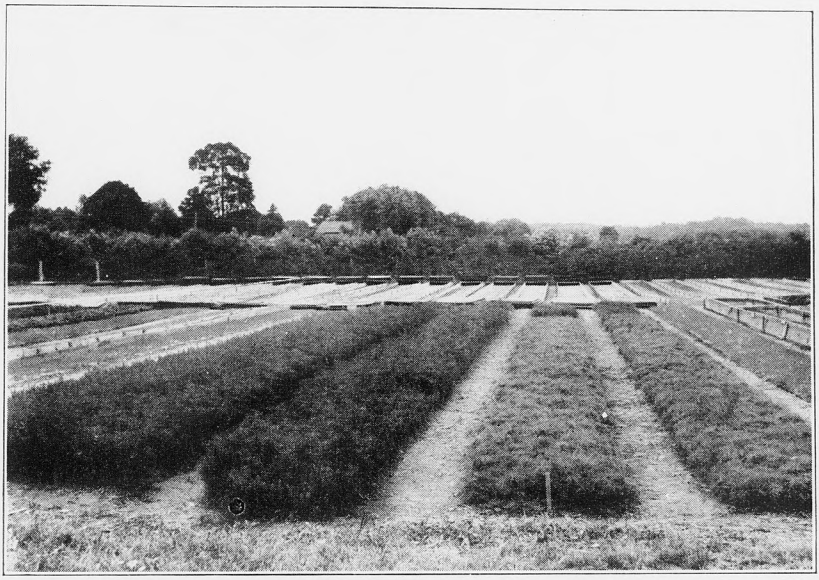


Figure 1—Two-Year Old Pine Seedlings at State Forest Nursery, College Park

Figure 2—Loblolly Pine Plantation, 55 Years Old, at Jesterville, Wicomico County. Trees now 90 Feet High, and 9 to 16 Inches in Diameter.

SHADE-TREE ACTIVITY

The Department is charged under the Roadside Tree Law with the protection of approximately 1,500,000 shade and ornamental trees standing within the limits of public highways or along the streets of incorporated towns throughout the State. There is no appropriation to carry on this work, so that it has to be self-supporting.

The work, however, is handled under a permit system, requiring those applying for permits to trim or remove trees to pay the cost of the necessary supervision, when permits are issued. Under this arrangement, the unnecessary cutting or mutilation of trees along the highways is prevented, and the public interest in shade trees safeguarded. Tree wardens are assigned by the Department to supervise the work. These men are chiefly engaged in supervising tree trimming by the pole line companies and paid on an hourly basis. The cost of the work is charged to and collected from the pole line companies.

Close cooperation with the State Roads Commission has been worked out. The highways are being cleared of unsightly trees, the good ones preserved, and where there are no trees, they are being planted. In 1931, the Billboard Law went into effect, and the revenue from this was used by the Roads Commission for roadside beautification. In 1931, 1,133 trees were planted by the Roads Commission, and in 1932, 828 trees, all of which came from the State Nursery.

Organizations and individuals, other than the Roads Commission, planted 3,614 trees in 1931 and 3,867 in 1932.

During the past biennium, 54 forest wardens have been assigned to tree work, and approximately 60,000 trees were trimmed under their supervision. The tree wardens of the Eastern Shore district were brought together at Denton in 1932 in a school of instruction.

The Forestry Department gives free service to towns in handling their shade tree problems, advising and working out detailed plans of management, including planting. During the biennium, five communities—Princess Anne, Millington, Denton, Cottage City, and Easton—applied for and received this service.

An increasing number of institutions and individuals applied for assistance in handling their shade tree problems. These inquiries covered identification of trees, insects and diseases, and their treatment, as well as pruning and general care.

INVESTIGATIONS AND RESEARCH

For the past two years a considerable amount of time has been devoted to the examination and valuation of a large number of tracts of forest land offered for purchase for state forests. If, as a result of the examination, the land is found suitable for state forest purposes and the price seems satisfactory, an option is taken for a sufficient length of time to make the surveys and search of title. Nearly all of the boundary surveys are made by the district foresters with local crews.

A crew of eight men worked for six weeks on the Savage River State Forest preparing a type map covering approximately 10,000 acres, which is to be used as a basis for a detailed working plan of the forest.

Studies of the characteristics, growth, and uses of our important commercial tree species, have been continued. The Department, in order to be of the greatest service to woodland owners who have timber to sell, and the timber buyers who are seeking timber supplies, keeps a list of the sawmill and timber operators and a list of those who have notified the Department that they have timber to sell. These lists are kept reasonably up-to-date by information obtained through our field men. In this way, the Department serves as a clearing-house for forest products and is of assistance to both buyer and seller.

Investigations of fire damage and improved methods of fire control, and the development of improved fire fighting tools, have been continued. The 100 fire damage study plots, established eight years ago for the purpose of determining effect of annual fires on forest growth, are inspected annually. These plots are in pairs, one plot being burned over each year, under control, while fire is kept out of the companion check plot. This is planned as a ten-year experiment, with interesting results already apparent.

Studies conducted at the State Forest Nursery in the control

of tree diseases, and experiments in root pruning, both in seedlings and large transplanting stock, have resulted in improved methods by which the cost of growing forest planting and roadside planting stock has been greatly reduced. Experiments in different methods of packing and the use of different kinds of containers for shipping forest planting stock have been productive of economy and greater efficiency.

Search for the largest trees of each species to be found in the State has been continued. In addition, any trees of historical value have been sought. There have been notable additions to the list of big trees in the past two years, bringing the total on record up to about 900. This investigative project was started in 1925, in cooperation with the Maryland Forestry Association. Its purpose is to list, measure, and photograph the noted trees of the State and to publish the material when the records seem sufficiently complete.

EDUCATION

Forestry deals with a natural resource of great value, not only to the landowners who hold the property, but of value in many ways to the people of the State as a whole. Its wise use and perpetuation are, therefore, of great importance. The educational activities of the Forestry Department are, in consequence, directed toward this end.

During the biennium the State Forester and his assistants gave 188 lectures, 99 of which were illustrated with lantern slides, before colleges, schools, civic associations, service clubs and a great variety of organizations, presenting all phases of forestry work.

Exhibit material, illustrating all branches of forestry, has been freely loaned to schools, and other responsible public agencies. For this purpose, the Department has certain regular exhibits, and in addition has prepared special exhibits for specific purposes.

The Newsletter, the official publication of the Department, has appeared each month. This contains articles and news items, and is sent to forest wardens, public officials, and newspapers. The latter use the material quite freely, giving it wide publicity.

The Department serves as a bureau of information on all forestry matters for state departments and others requiring advice and information. This part of the work takes a great deal of the time of the departmental staff in preparing special reports, holding conferences, and answering inquiries by letter.

The annual poster contest open to all Boy Scouts in Maryland for the best forest fire poster was held in each of the years, 1931 and 1932. The winner receives a medal offered by the American Forestry Association; in addition, his name and troop number are engraved on a large plaque which the troop holds for a year. In 1931, Scout Richard Hamburger, of Troop No. 147, Baltimore, was the winner, and in 1932, Scout William R. Brooke, of Troop No. 17, Cumberland, was the winner.

FOREST PROTECTION

It is now generally understood that forest management and the successful production of forest products entail forest protection as a primary requisite. The Maryland public not only understands more clearly that forest fires prove an economic loss to them through depletion of timber resources, but they are showing a keen concern regarding other major losses which occur when the forest burns. Increasing population and drought periods have made the public realize that destruction of the forest cover is an important factor in the pollution and reduction of community water supplies. The expenditure of millions of dollars for dredging of harbors and shipping channels constitutes an impressive testimony of the importance of a forest cover in preventing the washing of silt and debris into drainage channels. Recreational demands of an increasing population place a great importance upon the protection of wildlife, game, birds and fish, from the destructive influences of forest fires. The burning of rich vegetable material contained in the soil has become apparent through the slow growth of young forests reproducing on burned over areas. Blackened forests and lowered aesthetic appeal have seriously reduced the community income from tourist trade and from the influx of new residents.

Forest protection has been regarded as a difficult and important responsibility of the State Department of Forestry, since the beginning of state forestry work in 1906. Through-

out this twenty-seven year period of activity, the Department has struggled desperately to change the ever increasing tendency of forest fires to sweep the forest areas of the State. During recent years public support has expressed itself through encouraging increases in appropriations, making possible more definite progress in solving this difficult problem.

Enormous losses and serious consequences of the extraordinary fire conditions during the drought year of 1930 clearly demonstrated the fallacy of attempting to meet the situation with an organization barely capable of preventing abnormal loss in normal years. Recognizing the handicap under which the Department labored during the emergency period, the public requested more liberal financial support for protection efforts. However, curtailed State income prevented complete recognition of this sentiment, making an abbreviated organization still necessary in spite of a larger annual number of fires. Recognition has not yet been given to the necessity of funds for fire prevention as distinct from the problem of fire control.

The Organization

The Maryland forest protection organization centers around the forest wardens, who are specially picked citizens, commissioned by the Governor and empowered to enforce the forest laws and to suppress forest fires. The selection and training of these semi-volunteer specialists have been no easy task, because few men are interested in assuming the responsibilities of forest protection. During the first eighteen years of the Department, this work progressed slowly, an Assistant Forester carrying out the necessary activities in selecting, assisting, and training the forest wardens. The number of forest wardens thus selected and commissioned had gradually grown until about 400 had authority in 1927.

The employment of three district foresters in the fall of that year was an important advancement in the development of the organization, enabling a more thorough study and analysis of the fire control problem in the various counties, and the selection and training of additional forest wardens. Their efforts were evident in a material reduction of the size of forest fires during the years 1928 and 1929. The tremendous fire responsibilities during the year of drought and emergency

funds provided in the fall of 1930 enabled employment of junior stenographers for the district offices. This greatly increased efficiency, placed the district foresters in close contact with their organization through correspondence, and enabled constant attention to requests received by mail and telephone.

Preparation of forest fire accounts was transfered to the district offices in the fall of 1931, relieving much of the congestion at departmental headquarters in Baltimore.

Prior to the employment of the district foresters, the Department had experimented since 1924 in the employment of part-time district forest wardens in areas of high hazard, for the purpose of supervising, aiding and directing the work of the forest wardens. The plan-wise supervision of the technically trained district foresters enabled direction of the activity of the district forest wardens along lines of greater accomplishment, resulting in special fire prevention effort, prompt investigation of law violations, collection of fire supression claims, prosecution of law offenders, repair and maintenance of fire fighting tools, and closer supervision of lookout tower activity. Maryland is now divided into nine fire control units with a district forest warden in charge of seven of the units. These are as follows:

Unit	*Headquarters*	*Counties Involved*
1. Tableland	Oakland	Garrett.
2. Allegany	Cumberland	Allegany, Western Washington.
3. Blue Ridge	Frederick	Frederick, Eastern Washington.
4. Northern	Near Jarrettsville	Baltimore, Carroll, Harford.
5. Central	Laurel	Anne Arundel, Howard, Montgomery, Northern Prince Georges.
6. Southern	Near Waldorf	Calvert, Charles, St. Marys, Southern Prince Georges.
7. Northeastern	Principio Furnace	Cecil, Kent, Queen Annes.
8. Bay Shore	Hurlock	Caroline, Dorchester, Talbot.
9. Delmarva	Snow Hill	Somerset, Wicomico, Worcester.

The activities of the district forest wardens have proven so valuable in protecting Maryland forests that definite State appropriations for promoting the work should be provided, instead of depending upon the present temporary Federal support. Decided increase in efficiency seems assured when the employment of these practical field assistants can be placed upon a more satisfactory basis.

Fire Control Forces

During 1931, the number of forest wardens in the State reached a high peak of slightly over 700, but due to an elimination procedure adopted in 1932, the number of resignations exceeded the new appointments, reducing the organization to about 640 forest wardens by the end of 1932. This slight decline in numbers causes no concern, because the extreme care with which forest wardens are now selected is resulting in a much more effective organization.

Closely associated with the forest wardens in this effort labors a force of 1,912 registered forest fire crew men. Under the plan, each forest warden is authorized to contract for the services of five to twelve reliable and highly respected citizens in his locality, to serve on any fire in his district. In consideration of their agreement to serve whenever called, in recognition of their special ability, these men receive a higher rate of pay than ordinary labor. This system has helped materially to increase the efficiency of the fire fighting forces.

Besides the district foresters and district forest wardens, the State Department of Forestry employed 17 lookout watchmen and 18 forest guards to maintain a constant vigilance for fire in the vicinity of forest fire towers. Four new towermen and nine new forest guards were added to the organization during the biennium. The forest guard, because of his constant readiness for action and quickly moving automobile, can frequently reach fires in short time, promptly subduing the blaze, or at least hindering its advance until the forest warden and his crew arrive. These employees are doing much in carrying the lesson of fire prevention to careless individuals at the very moment when escape of a fire is probable. Additional forest guards are necessary in order to handle adequately the ever increasing number of fires.

During recent years, encouraging results have been attained through experimental use of temporary fire fighting crews, employed on a daily basis by the State during periods of high hazard, and stationed in readiness for instant call. Careful study of weather conditions coupled with knowledge of natural hazard areas has enabled the use of these crews in an effective manner during short periods, resulting in a marked reduction in area burned, at only slight additional expense over ordinary

fire fighting expenditure. The increased speed with which the waiting crew can be put on the fire line and the acreage saved seem to justify the additional expense. Such crews have been in use at Severn in Anne Arundel County, North East in Cecil County, and Nassawango in Worcester County. More extensive experiment along this line is contemplated.

To summarize the extent of the forest protection organization in Maryland, it should be stated that the State Forester has direct authority for handling the fire control problem, and is assisted by an Assistant Forester who is responsible for the functioning of the organization. Subordinate to the Assistant Forester are the three district foresters, and seven district forest wardens. The real job of forest fire suppression is performed by 17 towermen, 18 forest guards, 640 forest wardens, and 1,912 registered crew men.

Cooperation

Private Owners

The State Department of Forestry has always encouraged private timberland owners to assume the major responsibility in preventing forest fires on their properties. During 1932 special emphasis was laid on the desirability of having all roads and trails on private lands kept open for the purpose of permitting quick access to fires and to serve as lines along which the fires might be checked to best advantage. Many woodland owners on the Eastern Shore of Maryland showed particular interest in the suggestion, and a number had already been active along this line during previous years. It has been the experience of the Department that woodland owners who carry on prevention activities need not have their attention called to the fact that the State laws require timberland owners to control forest fires on their own property. Such owners will fight fires on their own property in order to prevent escape to adjoining lands, as well as fight to keep fires on other property from getting on their own land. Under these circumstances the State need assume the minimum responsibility in fire control.

Federal Government

In contributing funds towards state activities, as provided for by the Clarke-McNary Law of 1924, it is the policy of the

Federal Government to recognize expenditures made by state and private agencies for purposes of fires prevention and fire preparedness rather than in paying for fire fighting. The allotment received by Maryland in the Federal fiscal year ending June 30, 1931, amounted to $10,289. For the following fiscal year ending June 30, 1932, the allotment climbed to $12,203. However, for the next fiscal year which opened on July 1, 1932, the Federal allotment declined to $11,317, which is the first year that it has failed to show a moderate gain since the beginning of Federal cooperation.

The severity of 1930 fire conditions brought on an early exhaustion of state allotments for towermen, forest guards and telephone service, but fortunately, sufficient funds were available from Federal sources to permit carrying an adequate force through the remainder of that year. An analysis of conditions indicates that it is extremely important that the State continue along a policy of ample financial support of prevention activities; first, because less timberland will be burned over; second, because savings in fire suppression costs will counterbalance the investments; and third, because the amount of Federal aid is dependent on the efforts made by the State itself. With decreased Federal support for prevention, the State will be confronted with the necessity of paying far heavier suppression costs, and must face the disagreeable features of more numerous and extensive forest fires.

Adjoining States

The States of Delaware, Pennsylvania, and West Virginia cooperate with the Department of Forestry in handling forest fire problems along the state boundary lines. The Snaggy Mountain lookout tower on the western boundary of the State is maintained cooperatively by Maryland and West Virginia. Dan's Rock, Town Hill, and Warrior Mountain towers in Allegany County provide detection for portions of Pennsylvania and West Virginia. In return for this service, West Virginia has provided protection for a large area in southeastern Garrett County from their lookout station on Pinnacle Rock, while Pennsylvania renders assistance from the towers at Martin's Hill and Hays Mills. Funds for tower activity in West Virginia have been insufficient to carry through the Maryland fire season, making it necessary for Maryland in the interest of its

Figure 1—Recreational Area Along Elk Lick, Savage River State Forest, Garrett County.

Figure 2—Fighting Forest Fires With Spray Tanks and Special Fire Rakes.
(Insert)—Forest Fire as Seen From Lookout Tower

Federal Government to recognize expenditures made by state and private agencies for purposes of fires prevention and fire preparedness rather than in paying for fire fighting. The allotment received by Maryland in the Federal fiscal year ending June 30, 1931, amounted to $10,289. For the following fiscal year ending June 30, 1932, the allotment climbed to $12,203. However, for the next fiscal year which opened on July 1, 1932, the Federal allotment declined to $11,317, which is the first year that it has failed to show a moderate gain since the beginning of Federal cooperation.

The severity of 1930 fire conditions brought on an early exhaustion of state allotments for towermen, forest guards and telephone service, but fortunately, sufficient funds were available from Federal sources to permit carrying an adequate force through the remainder of that year. An analysis of conditions indicates that it is extremely important that the State continue along a policy of ample financial support of prevention activities; first, because less timberland will be burned over; second, because savings in fire suppression costs will counterbalance the investments; and third, because the amount of Federal aid is dependent on the efforts made by the State itself. With decreased Federal support for prevention, the State will be confronted with the necessity of paying far heavier suppression costs, and must face the disagreeable features of more numerous and extensive forest fires.

Adjoining States

The States of Delaware, Pennsylvania, and West Virginia cooperate with the Department of Forestry in handling forest fire problems along the state boundary lines. The Snaggy Mountain lookout tower on the western boundary of the State is maintained cooperatively by Maryland and West Virginia. Dan's Rock, Town Hill, and Warrior Mountain towers in Allegany County provide detection for portions of Pennsylvania and West Virginia. In return for this service, West Virginia has provided protection for a large area in southeastern Garrett County from their lookout station on Pinnacle Rock, while Pennsylvania renders assistance from the towers at Martin's Hill and Hays Mills. Funds for tower activity in West Virginia have been insufficient to carry through the Maryland fire season, making it necessary for Maryland in the interest of its

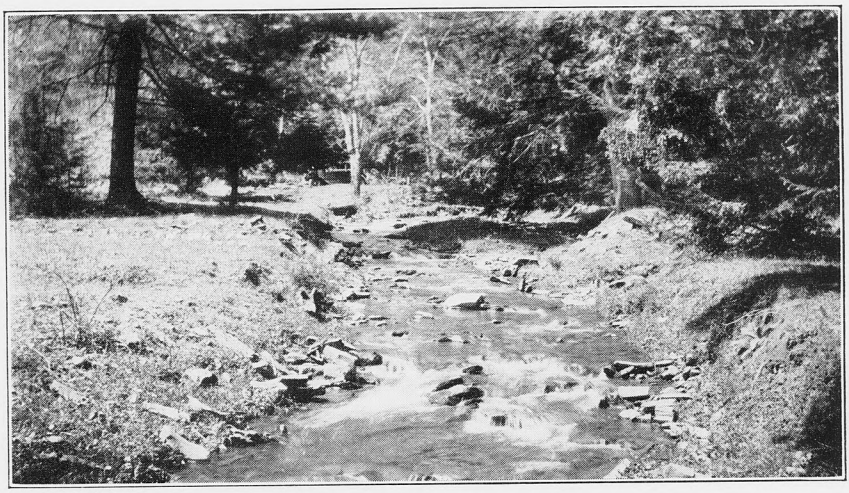


Figure 1—Recreational Area Along Elk Lick, Savage River State Forest, Garrett County.

Figure 2—Fighting Forest Fires With Spray Tanks and Special Fire Rakes.
(Insert)—Forest Fire as Seen From Lookout Tower

own timberland owners to place towermen on duty at the Pinnacle Rock and Snaggy Mountain stations, after West Virginia funds have been exhausted.

A novel arrangement with the Delaware Forestry Department provides for the operation of an interstate tower located exactly on the state line bordering Caroline County. The agreement, made in 1931, provides that administration and supervision of tower activity will be undertaken alternately by the cooperating state departments for two-year periods. the first period of supervision being provided by Delaware. Cost of maintenance and operation is divided equally between the cooperating States.

During 1931 and 1932, various fires have burned on or near the state boundaries adjacent to Delaware and Pennsylvania, which were energetically attacked by forest wardens from adjacent states. Employees from either state crossed the line to assist in controlling fires in the neighboring state and were compensated by the state in which the services were performed. This arrangement resulted in real efficiency along the boundary lines.

The Counties

There is a joint partnership between each county and the State to combat forest fires, each paying one-half of the fire bills. The forest wardens are local men whose employment is approved by the county commissioners. They in turn employ local help in fighting fires. Where the fire bills are paid promptly a much higher degree of efficiency is secured, as evidenced by the fire work in most counties. Where payment is much delayed, as was the case in three counties in 1931 and 1932, there is a loss of interest and difficulty in getting fire fighters promptly on the fire, with consequent excessive fire damage. This is not fair to the property owners whose forest lands are damaged or endangered, and calls for remedial action on part of the delinquent counties.

Important contributions were made to the lookout tower construction program in 1931 by Anne Arundel, Prince Georges, and Wicomico Counties, which respectively contributed $400., $600., and $300. One of the finest towers in the State was built near Church Creek in 1932, towards which Dorchester

County contributed $1,000., half payable in 1933. Thus, a total of $2,300. has been pledged or paid by the counties during 1931 and 1932 toward the tower construction program. In addition, the County Commissioners of Harford County have offered to subscribe an item of $300. provided the necessary additional funds can be raised for a tower at Madonna. The Harford Hunt Club and other civic groups are showing some interest in this project.

Frederick City

The severe forest fire problem which has existed in the Catoctin-South Mountain area of Frederick County for an extended number of years has continued to the present date with only slight reduction in fire acreage loss. The forested watershed of the City of Frederick, consisting of about 6,000 acres on the headwaters of Fishing and Hunting Creeks, is in the heart of this hazardous area. While protecting its municipal water supply, the City is endeavoring to develop a commercial forest on its watershed and is experiencing much difficulty from incendiary fires. Close cooperation has existed between the City and the Department of Forestry for quite a number of years, directed towards solution of this problem. Through this effort the Hamburg forest fire-tower has been equipped and is operated for the protection of the City forest and adjacent lands; a full-time city forester is employed who supervises the protection work in addition to other forestry, park and shade tree activities; and all necessary services in fire fighting are handled in the usual manner by the State and the County. In addition, the City has constructed a forest guard's station at Five Forks on the area, where a forest guard is kept on duty during fire seasons, has provided special fire fighting tools for the area, and has constructed extensive fire lines, cutting the area up into smaller protective blocks. An additional forest guard was employed by the State in the spring of 1932 and stationed at Lewistown, rendering service for adjacent forest areas as well as the City watershed.

The City Forester also serves on a cooperative basis as district forest warden for the Blue Ridge fire control unit. Lectures, literature and motion pictures are utilized in encouraging fire prevention. Close scrutiny of the problem during recent years indicates that recurring fires are set by the moun-

tain people in order to improve the crop of wild huckleberries on the city property. Special methods of correction and vigorous law enforcement apparently must be added to the recent concentration on educational activity.

Volunteer Fire Companies

At least 15 new companies have entered cooperation with the Department of Forestry during the past two years, bringing the total number of cooperating companies to about 75, located mainly in towns or suburban sections of the State. A member of each company has been commissioned as forest warden and serves as an officer of the company, directing forest fire control activity. In addition to the fire fighting tools supplied by the Department, many companies have purchased additional equipment, especially for forest fire control. Several volunteer organizations have secured special forest fire trucks for fighting forest fires more effectively, so that the more expensive equipment can be retained in town for the protection of buildings. All of the cooperating companies in Anne Arundel County have acquired portable gasoline pumps which are particularly adapted to the control of forest fires.

The enthusiasm aroused in forest protection, following the appointment of a forest warden in Forestville, Prince Georges County, brought about the organization and support of a community volunteer fire company to take care of houses and other buildings in addition to forest property. Less than one year after the company sprang into existence, a fire house had been erected and a very well-equipped fire truck purchased.

Industries and Institutions

As a result of an effort started in 1927, a number of public-spirited concerns in various sections of the State have cooperated in the organization of special suppression crews among their employees. In Western Maryland, special crews have been organized among the employees of the Consolidated Coal Company of Frostburg, the Georges Creek Coal Company of Midland, the Kelly-Springfield Tire Company and the Potomac Edison Company, of Cumberland. In the Catoctin-South Mountain section, special crews have been organized by the Ox-Fibre Brush Company, the Frederick Iron Works, and the

Izaak Walton League for emergency fire work in Frederick County.

Cooperators in other sections of the State are the Savage Manufacturing Company of Savage, Howard County; the Whitaker Iron Company of Principio Furnace, Cecil County; and the Gibson Island Company in Anne Arundel County.

Institutions which have cooperated in the control of forest fires are the Crownsville State Hospital, Anne Arundel County; the Charlotte Hall School for Boys, St. Marys County; the Cheltenham Reform School for Colored Boys, Prince Georges County; the Maryland Training School for Boys, Baltimore County; and the Maryland House of Correction, Anne Arundel County.

Chief among the governmental agencies which have given assistance are the Maryland National Guard at Camp Ritchie, Frederick County; the Edgewood Arsenal, a unit of the Ordnance Department in Harford County; and the Curtis Bay Coast Guard Station and Fort George G. Meade, both in Anne Arundel County. Development of detailed plans of cooperation is gradually bringing about greater efficiency in the action of these assisting agencies.

Other Agencies

A number of private individuals and concerns have contributed funds, materials, and property toward the development of the fire-tower system. The Chesapeake and Potomac Telephone Company carries a list of forest wardens on the back page of each directory published in the State. In addition, the telephone operators report immediately, to the proper forest officer, information on forest fires called in, without charge to the one giving the information.

For several years the State policemen and deputy game wardens have cooperated actively with the Department of Forestry in reporting forest fires and aiding in suppressing them. The State Game Division cooperates in fire prevention through posting fire warning notices and in printing fire warnings on all hunting licenses.

Each year since 1927 the Lions Club of Frederick has awarded a silver cup to the forest warden of Frederick County who

has the best record for efficiency during the year. Each succeeding year the cup is passed on to the new winner. In 1931, a similar project was undertaken by the Salisbury Rotary Club,—the most efficient forest warden for the year in Wicomico County receiving a gold watch.

An organization of Worcester and Wicomico County woodland owners, known as the Nassawango Forestry Association, was organized in 1928, and joined with the State in erecting the Nassawango forest fire-tower, contributing most of the cost. During 1930, the Association and local timberland owners contributed $400. toward the erection of a small house at the tower for the lookout watchman.

Fire Prevention

The fact that the size of the average fire is gradually being reduced indicates that efficiency in fire suppression is improving from year to year. The real difficulty lies in the fact that a greater number of fires are occurring each year, indicating that better methods of fire prevention are necessary in order to correct this tendency.

Fire Warning Posters

A large number of fire warning signs purchased in 1929 proved sufficient for posting purposes until the fall of 1932, when a new and novel design was created. The policy of erecting special sign backs along State highways, at two mile intervals, was continued, and the cooperation of the State Roads Commission resulted in better maintenance and prompt replacement of torn posters. Favorable comments and requests for erection of signs adjacent to various properties indicate that this form of prevention effort is reaching the attention of the public.

News Articles

A carefully prepared newspaper article, bearing upon current forestry activities, was released on Monday or Tuesday of each week, reaching the newspapers throughout the State in time for inclusion in weekly editions appearing on Thursday or Friday. Throughout the fall and winter of 1931 and the spring of 1932, articles appeared regularly each week and occasionally twice a week. Many articles were sent out by the District Foresters to county papers in their districts for publication.

Railroad Fire Hazards

The railroad fire safety strip law of 1924 requires all railroads to clean annually, between October 1 and April 15, the inflammable material on a strip 100 feet wide along either side of their rights-of-way wherever the Department of Forestry has determined that a hazard exists. During the last few years, the Department has made it a policy to request all railroads to clean safety strips prior to March 15, inasmuch as experience has shown that unless fire hazards are clean prior to that date many fires may be set prior to cleaning, since spring fires are frequent between March 15 and April 15. Completion of the work was more punctual in 1931, but attempts at economy and reduced man-power in 1932 delayed completion until April 15, or later, making necessary the employment of patrolmen by several railroads to follow the trains through uncleaned hazards.

Demonstrations of approved methods of safety-strip cleaning were held on the Pennsylvania Railroad near Principio Furnace in Cecil County on February 9, 1932, and in Wicomico County on February 16, 1931. Both demonstrations were well attended by section foremen and other railroad officials.

Claim Collections

Special effort has been made for years to reduce fires caused through carelessness in burning brush and other debris, through education, advice, and warning. Timely press notices are issued when dangerous weather conditions exist and vigorous warnings and advisory literature are given out by the Department officials and forest guards to persons doing burning. The results of these efforts, although carefully performed, have not attained the desired goal.

It appears that the most effective prevention method has been through the collection of expenses incurred in fire fighting from the persons responsible for escape of fire. In laying the cost of fire fighting on the responsible parties, the Department of Forestry is impressing careless individuals with the need for greater care with fire while at the same time relieving the taxpayer from bearing the fire-fighting bills. During 1931 and 1932, collections were made involving the escape of 363 fires, amounting to $4,568.31. Few persons pay fire-fighting costs

willingly, and during this period of increasing unemployment it has been necessary to accept a large number of partial payments with special agreements for settlement on an installment basis. Court action is taken only as a last resort, where persons are unreasonable or fail to fulfill agreements.

Second offenders, or those causing fires after being warned, are taken into court under criminal charges, subject to fine or imprisonment. Occasionally, forest wardens are successful in apprehending persons who cause fires maliciously, in which case the severe criminal charge of incendiarism is sworn against the offender, usually resulting in a jail sentence. During 1931 and 1932, eleven persons were thus fined or imprisoned because of violation of the fire laws.

Many of the New England States place much dependence upon the fire permit system as a means of regulating and preventing forest fires caused through carelessness in burning brush and other debris. In the fall of 1932, a detailed study of the New England permit system was undertaken by a representative of the Maryland Department of Forestry. This study is to be completed early in 1933, and carries some prospects of developing new methods of meeting the careless fire problem in Maryland.

Other Agencies

The 640 forest wardens of the State, with their 1,912 registered crew men, located in all important forested areas of Maryland, serve as a very important fire prevention agency. Likewise, the salaried members of the organization, from the State Forester to part-time forest guards, are constantly engaged in fire prevention activities by visiting the schools and by personal contacts. Naturally enough, fire prevention effort would be very worthwhile if performed during periods of high fire hazard, yet these are the periods when the organization is most severely taxed in detecting and controlling fires, little time remaining for purposeful effort among persons likely to start fires. Special funds should be provided for prevention purposes, enabling the development of intensive plans for attaining effective prevention in areas of particular hazard.

Fire Preparedness

Appreciable advancement has been made in the past biennium in providing special improvements, equipment, and arrangements for the prompt detecting and reporting of forest fires. The results have been apparent in more fires being reported to forest wardens than were reported in past years of comparable hazard, when fully as many fires must have occurred but never came to the Department's attention. The promptness of reports and attack by forest wardens is evidenced in the small acreage burned per fire.

Fire Detection System

A special construction loan of $10,000, authorized by the General Assembly early in 1931, permitted the State to erect several new forest fire towers which were very necessary for the better detection of fires in areas of high hazard, or where very valuable stands of timber were located. During the summer of 1931 four new steel lookout-towers were constructed in Allegany, Caroline, Prince Georges and Wicomico Counties, and a fifth relocated in Allegany County. The following summer a tower was relocated in Montgomery County and a new one erected in Dorchester County, making a total construction program of seven towers during the biennium. According to plans already made it will be necessary to have 30 to 35 primary towers to protect the woodlands in Maryland. So far the total number of towers is 19. The towers erected during the period of this report were as follows:

Operating Began	Tower	County	Height	Approach
1931	Hillmeade	Prince George	100 ft.	State Road
1931	Quantico	Wicomico	100 ft.	State Road
1931	Interstate	Caroline	100 ft.	State Road
1931	Town Hill	Allegany	80 ft.	Dirt Road
1932	*Burtonsville	Montgomery	100 ft.	Gravel Road
1932	Church Creek	Dorchester	120 ft.	State Road

* Relocation of Muirkirk Tower.

Telephone Connections

The construction of the six new towers required the installation of new telephone facilities in each case. Three of these were made possible without the construction of new telephone lines, but two miles of new line were necessary to link up the

Interstate tower with the Federalsburg exchange, and two-and-a-half miles of line to connect the Church Creek tower, Dorchester County, with the Cambridge exchange. A one-half mile line connects the Town Hill tower in Allegany County with lines running to Cumberland. An unsatisfactory party line which gave service to the Thayerville tower in Garrett County was abandoned and a new three mile line constructed down the east side of Meadow Mountain, connecting with lines to Oakland. The Bittinger tower, Garrett County, which together with the forest guard stations at Black Hawk and Bond were receiving rather poor service over a farmer cooperative system, was much improved by the construction of a two mile section giving direct connections with the fire stations through the Bittinger Mutual telephone exchange. The extension of an existing Bittinger line for a distance of one mile, providing service at New Germany, the headquarters of the Resident Forest Warden in charge of the Savage River State Forest, was another important development. Service at the Long Hill tower in Anne Arundel County was improved through construction of a new direct line from the Armiger exchange. The creation of new forest guard stations at Severn, Anne Arundel County, and Kitzmiller, Garrett County, required the establishment of telephone connections at these stations.

Forest Fire Tools

For the past ten years the Department of Forestry has, as far as funds would permit, equipped the forest wardens of the State with special forest fire tools consisting in each case of at least two forest fire rakes, a knapsack pump, and a back-firing torch. Additional equipment consisting of axes, cross-cut saws, canvas buskets, and miners lamps, are provided in special cases.

Each warden is charged with the equipment furnished by the State and at least once each year the tools are examined and repaired by the district forest wardens, who carry extra parts for replacements in the field. An inventory of the fire fighting tools in the hands of wardens during 1932 is as follows:

	Fire Rakes	Pumps	Torches
District I (Western Maryland)	431	156	132
District II (Western Shore)	438	209	184
District III (Eastern Shore)	620	207	92
	1,489	572	408

State Department of Forestry Plate IV

Figure 2—Forest Road and Fire Line on Doncaster State Forest, Charles County.

Figure 1—Forest Fire Fighting Equipment at Forest Warden's Home.

Interstate tower with the Federalsburg exchange, and two-and-a-half miles of line to connect the Church Creek tower, Dorchester County, with the Cambridge exchange. A one-half mile line connects the Town Hill tower in Allegany County with lines running to Cumberland. An unsatisfactory party line which gave service to the Thayerville tower in Garrett County was abandoned and a new three mile line constructed down the east side of Meadow Mountain, connecting with lines to Oakland. The Bittinger tower, Garrett County, which together with the forest guard stations at Black Hawk and Bond were receiving rather poor service over a farmer cooperative system, was much improved by the construction of a two mile section giving direct connections with the fire stations through the Bittinger Mutual telephone exchange. The extension of an existing Bittinger line for a distance of one mile, providing service at New Germany, the headquarters of the Resident Forest Warden in charge of the Savage River State Forest, was another important development. Service at the Long Hill tower in Anne Arundel County was improved through construction of a new direct line from the Armiger exchange. The creation of new forest guard stations at Severn, Anne Arundel County, and Kitzmiller, Garrett County, required the establishment of telephone connections at these stations.

Forest Fire Tools

For the past ten years the Department of Forestry has, as far as funds would permit, equipped the forest wardens of the State with special forest fire tools consisting in each case of at least two forest fire rakes, a knapsack pump, and a back-firing torch. Additional equipment consisting of axes, cross-cut saws, canvas buskets, and miners lamps, are provided in special cases.

Each warden is charged with the equipment furnished by the State and at least once each year the tools are examined and repaired by the district forest wardens, who carry extra parts for replacements in the field. An inventory of the fire fighting tools in the hands of wardens during 1932 is as follows:

	Fire Rakes	Pumps	Torches
District I (Western Maryland)	431	156	132
District II (Western Shore)	438	209	184
District III (Eastern Shore)	620	207	92
	1,489	572	408

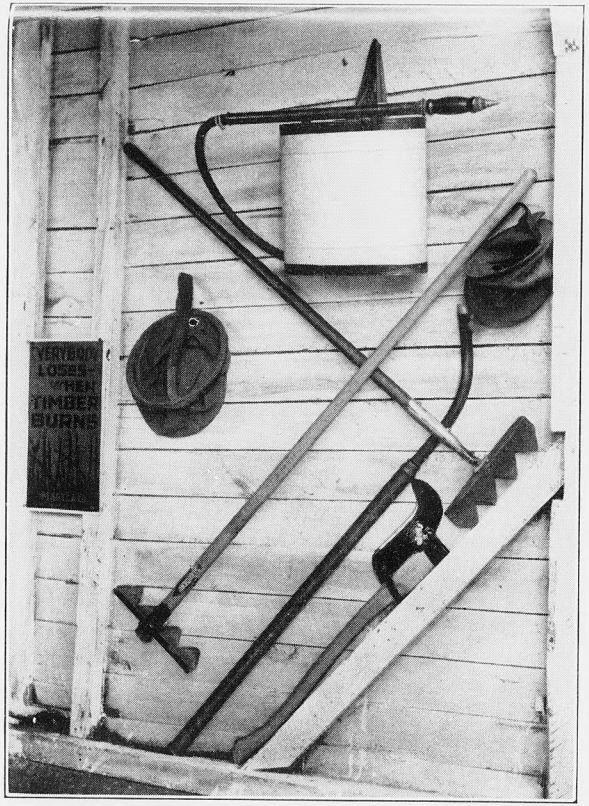


Figure 1—Forest Fire Fighting Equipment at Forest Warden's Home.

Figure 2—Forest Road and Fire Line on Doncaster State Forest, Charles County.

A number of volunteer fire companies, private timberland owners, registered fire crews, and local civic organizations, have purchased additional equipment through the Department of Forestry for the purpose of securing better forest fire protection in their locality

Forest Warden Conferences

During the first few months of the year the Department has held forest warden meetings for the purpose of training and educating the men along the lines of forest protection. Eight such meetings were held in 1931 at the following places; Federalsburg, Laurel, Perry Point, Charlotte Hall, Annapolis, Oakland, Cumberland and Frederick. In 1932, seven conferences were held, the locations being Towson, North Beach, College Park, Hurlock, Elkton, Frederick and Salisbury. Attendance in all cases was very good and it was felt that the excellent work performed in fire protection during both years was in no small measure due to the influence of these meetings.

Such conferences, although tremendously beneficial, are unable to concentrate upon the specific problems of individual forest wardens. A less formal type of meeting, in which the forest warden, his registered crew, interested land owners, and officials of the Department assemble to discuss local fire control problems, is proving of increasing value. A number of these local meetings have been held in the Allegany and Tableland Units of Western Maryland, and several counties on the Eastern Shore.

Fire Line Construction

As rapidly as new state forests are established, protecting fire lines are constructed along the boundaries, and interior roads and trails are cleaned out as rapidly as administrative facilities will permit. The existing force of forest guards, towermen, and resident forest wardens, is used for this type of activity when seasonal fire dangers are low or non-existent. Owners of private timberlands are also beginning to show an interest in this type of protective effort and it is believed that a state-wide plan for private expenditure of this nature can be developed within the next few years. The fire lines so constructed are of material aid in preventing especially large and damaging fires.

Other Improvements

A marked improvement has been made in the use of forest warden signs by standardizing the method of erection. Regular officials of the Department have given close attention to the choice of a proper site for each sign and in seeing that standardized materials are used for mounting. It is felt that the presence of these signs before the homes of forest wardens has played an important part in increasing the number of fires reported by people in that locality.

In order to protect the State's forest fire fighting equipment a number of fire tool boxes have been supplied to forest wardens in certain parts of the State. Not only do these boxes keep the tools in better condition, but they serve as regular places where anyone in the warden's family or in his registered crew can expect to find them in case of fire. More extensive installation of these tool boxes is contemplated.

Forest Fires in 1931 and 1932

The extremely bad forest fire season of 1930 seemed to have keyed up the protective organization to a high degree of efficiency, with the result that the average acreage burned per fire in 1931 and 1932 dropped markedly below similar figures for previous years. With the exception of the unusually mild fire year of 1927, the average acreage burned per fire in 1931 reached a new low figure, only to be eclipsed by an all-time record of 13 acres per fire in 1932. The following table gives a comparison of these figures for the period beginning 1922:

Year	Average Acreage Burned Per Fire
1932	13
1931	26
1930	44
1929	31
1928	51
1927	19
1926	110
1925	99
1924	41
1923	193
1922	81

Rainfall in 1931 and 1932 was insufficient to have a marked influence on the dryness of the soil and forest litter, due to the 1930 drought; consequently, an unusually large number of

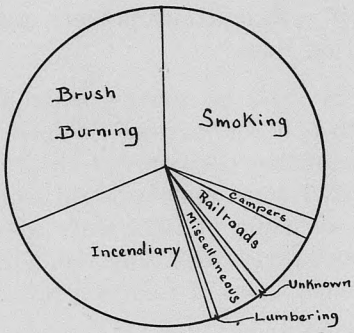
fires occurred in the years covered by this report. Forest wardens have frequently spoken of the recent dryness of leaf mold accumulations which in former years were very moist beneath the surface, substantially lowering the chances of fire starting from various causes and making fire control far easier than in 1931 or 1932. A chart showing the number of fires and the total acreage burned each year since 1926 appears at the end of this report. Though it is apparent that only half as many fires occurred annually in the past two years as compared to 1930, the figures are much higher than in earlier years.

Whereas 12 fires burned over more than 1,000 acres each in 1930, there were only two in 1931 and none in 1932 which reached that mark. In the latter year success was apparent in the fact that 69% of the fires were held down to an area of one-quarter to ten acres, the corresponding figures for 1930 and 1931 being 58% and 60% respectively. A summary of the number of fires by size classes follows:

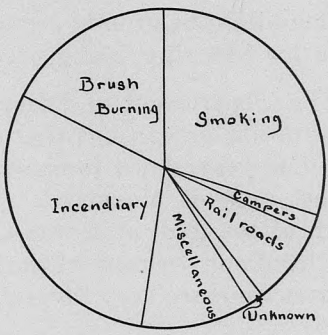
Size of Fires	Number of Fires	
	1931	1932
¼ acre or less	70	85
¼ to 10 acres	658	873
11 to 100 acres	298	287
101 to 1,000 acres	58	20
1,000 acres or more	2	--
Total	1,086	1,265

An increase in the number of incendiary fires is becoming apparent in recent years. For the past three years, beginning 1930, incendiary fires have totaled 17%, 15%, and 20%, successively, the increases being particularly noticeable in Allegany and Garrett Counties. Due to the difficulty of apprehending incendiarists, it is hard to determine the motives behind their actions; however, it is hoped that the prosecution of a few cases in which individuals have been caught will have a marked influence on this source of trouble.

"Smoking" continues to be the leading cause of forest fires, comprising 40% and 37% of the total number of forest fires in 1931 and 1932. "Brush Burning" is second in importance, with 26% and 25% respectively for the two years, and is followed by "Incendiary" fires. In 1932, 82% of the fires were attributable to the three causes mentioned, all avoidable causes

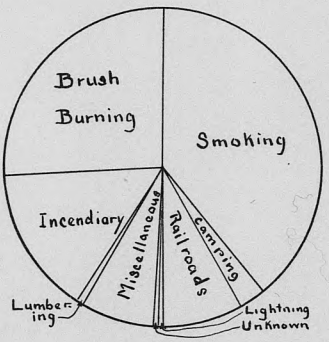


1931
Total 28,525 Acres

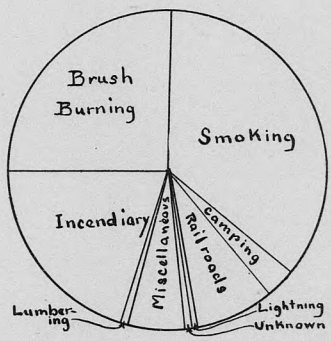


1932
Total 16,711 Acres

Fires by Causes in Relation to Acreage Burned.

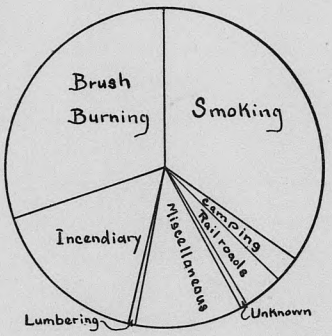


1931
1,086 Forest Fires

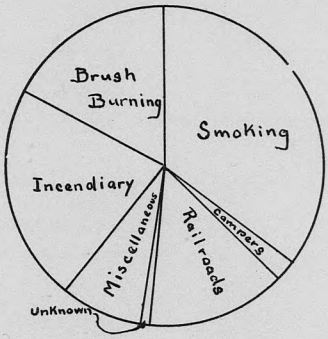


1932
1,265 Forest Fires

Fires by Causes in Relation to Number.



1931
$100,314.96

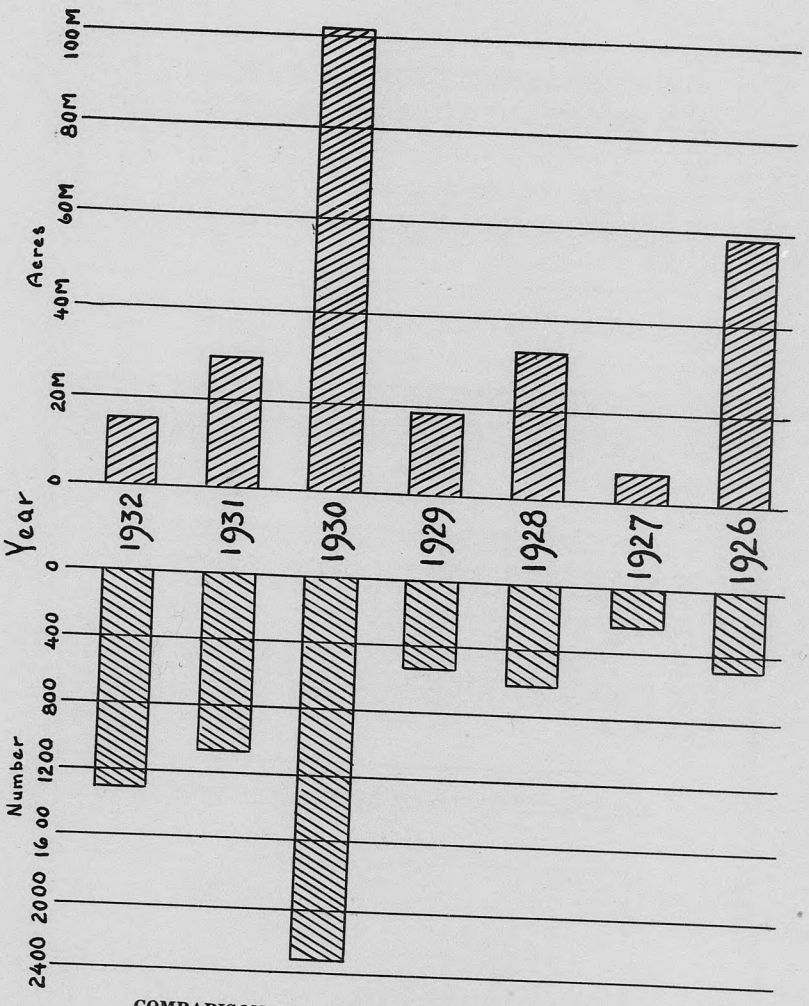


1932
$48,952.24

Fires by Causes in Relation to Damage.

which might be greatly reduced if sufficient means were available for education along prevention lines.

The Department of Forestry is working toward a definite goal in fire protection; that is, to hold the acreage burned, in any one year, down to one-tenth of one per cent. of the total forest area of Maryland. In 1931, one and two-tenths per cent. of the total area was burned, while in 1932, only seven-tenths of one per cent. of the State's forest area suffered. These figures compare very favorably with those of former years.



COMPARISON OF ANNUAL FOREST FIRE RECORD
Forest Fires by Years. Number and Acreage Burned.

TABLE 1—FOREST FIRES BY SEASONS IN THE COUNTIES

January 1 to December 31, 1931

County	Spring, 1931				Fall, 1931			
	No.	Acreage	Damage	Expense	No.	Acreage	Damage	Expense
Allegany	111	3,921½	$11,353.25	$4,140.71	31	372¼	$668.15	$616.70
Anne Arundel	95	2,087	4,456.76	1,448.77	22	98⅞	62.00	169.00
Baltimore	46	621¾	3,815.20	296.75	17	94¾	7,110.40	117.47
Calvert	1	1	2.00	10.75	--	----	-------	------
Caroline	16	299½	1,157.37	116.55	2	15	60.00	27.75
Carroll	4	47	462.50	47.00	3	41	111.00	25.25
Cecil	51	1,606⅛	2,174.50	842.56	12	28½	35.50	34.80
Charles	14	812	1,518.35	162.57	3	10½	8.00	41.05
Dorchester	29	1,008½	4,590.50	371.10	6	59½	266.00	114.25
Frederick	17	717	2,280.50	406.95	8	339⅜	773.00	213.70
Garrett	108	4,282½	9,357.05	2,448.28	30	308¾	428.25	505.60
Harford	33	674½	4,434.75	316.99	18	82¼	180.43	222.85
Howard	27	152¾	577.05	264.70	7	124	224.25	231.57
Kent	6	116½	167.00	78.75	--	----	-------	------
Montgomery	31	867½	1,806.75	406.70	1	10	5.00	23.20
Prince Georges	146	2,547⅞	7,051.20	2,082.33	35	156¾	343.75	320.00
Queen Annes	1	115	200.00	3.15	1	25	100.00	8.25
St. Marys	16	544⅝	1,178.00	238.80	1	½	20.00	6.45
Somerset	12	1,670	11,664.00	247.45	9	25	73.00	46.50
Talbot	8	112¾	723.35	82.30	--	----	-------	------
Washington	24	2,131¾	7,055.50	1,014.29	19	489¼	2,169.40	669.88
Wicomico	22	677¼	6,464.75	294.06	7	5⅝	8.00	37.85
Worcester	26	763¾	3,514.00	293.65	10	460⅜	1,664.50	188.00
Total	844	25,778⅛	86,004.33	15,615.16	242	2,747¼	14,310.63	3,620.12
False Alarms	111	-------	---------	492.35	72	-------	---------	181.65
	955	-------	---------	16,107.51	314	-------	---------	3,801.77

TABLE I—Continued

January 1 to December 31, 1932

County	Spring, 1932				Fall, 1932			
	No.	Acreage	Damage	Expense	No.	Acreage	Damage	Expense
Allegany	82	852 7/8	$1,765.21	$1,226.85	71	757 1/8	$1,370.63	$1,796.62
Anne Arundel	117	1,185 5/8	3,345.85	1,187.26	41	333	518.60	335.69
Baltimore	75	1,266 1/2	5,119.00	604.54	15	73 1/2	238.20	107.85
Calvert	1	3	.30	18.15				
Caroline	12	105 3/4	630.50	93.55	8	131 3/4	166.50	174.15
Carroll	2	12	50.00	21.50	1	3	53.00	10.35
Cecil	39	860	2,105.25	268.90	7	65 1/4	17.00	36.55
Charles	14	666 3/8	5,290.65	140.85	7	44	47.85	52.20
Dorchester	15	71	251.00	86.60	16	236 3/8	1,027.90	309.07
Frederick	29	598 3/8	1,927.97	886.27	6	24	29.50	117.70
Garrett	136	3,326	5,992.87	1,520.82	34	659	838.35	379.43
Harford	46	486	545.25	555.97	10	28 1/8	19.70	68.40
Howard	38	441 1/4	420.15	501.29	13	98 1/2	111.95	137.75
Kent	2	38	174.00	16.75	3	9 1/2	4.00	15.20
Montgomery	39	272 1/4	766.30	424.46	5	62	68.00	40.20
Prince Georges	130	698 1/2	2,242.27	1,150.07	64	299 1/2	1,007.64	586.68
Queen Annes	3	37	75.00	17.15	4	83	275.00	19.90
St. Marys	14	617 1/2	3,481.45	143,20	13	31 1/2	236.80	130.32
Somerset	10	99 1/2	973.00	60.15	11	277 3/4	1,100.00	106.17
Talbot	8	38 3/4	133.50	66.65	4	6	25.00	10.30
Washington	19	209 1/2	840.25	216.55	20	156 5/8	296.10	277.08
Wicomico	20	486 1/2	1,421.25	307.15	25	257 3/4	600.75	327.50
Worcester	22	549 1/4	2,958.75	363.45	14	153 1/8	390.00	154.75
Total	873	12,921	$40,509.77	$9,878.13	392	3,790 3/8	$8,442.47	$5,193.86
False Alarms	176			409.86	61			117.10
	1,049			$10,287.99	453			$5,310.96

TABLE II—FOREST FIRES BY COUNTIES

January 1 to December 31, 1931

County	No.	Acreage	Damage	Expense*
Allegany	142	4,293¾	$12,021.40	$4,757.41
Anne Arundel	117	2,185⅞	4,518.76	1,617.77
Baltimore	63	716½	10,925.60	414.22
Calvert	1	1	2.00	10.75
Caroline	18	314½	1,217.37	144.30
Carroll	7	88	573.50	72.25
Cecil	63	1,634⅝	2,210.00	877.36
Charles	17	822½	1,526.35	203.62
Dorchester	35	1,068	4,856.50	485.35
Frederick	25	1,056⅜	3,053.50	620.65
Garrett	138	4,591¼	9,785.30	2,953.88
Harford	51	756¾	4,615.18	539.84
Howard	34	276¾	801.30	496.27
Kent	6	116½	167.00	78.75
Montgomery	32	877½	1,811.75	429.90
Prince Georges	181	2,704⅝	7,394.95	2,402.33
Queen Annes	2	140	300.00	11.40
St. Marys	17	545⅛	1,198.00	245.25
Somerset	21	1,695	11,737.00	293.95
Talbot	8	112¾	723.35	82.30
Washington	43	2,621	9,224.90	1,684.17
Wicomico	29	682⅞	6,472.75	331.91
Worcester	36	1,224⅛	5,178.50	481.65
Total	1,086	28,525⅜	$100,314.96	$19,235.28
False Alarms	183	--------	----------	674.00
	1,269	--------	----------	$19,909.28

*State and County each pay one-half of the expense.

TABLE II— Continued

January 1 to December 31, 1932

County	No.	Acreage	Damage	Expense*
Allegany	153	1,610	$3,135.84	$3,023.47
Anne Arundel	158	1,518 5/8	3,864.45	1,522.95
Baltimore	90	1,340	5,357.20	712.39
Calvert	1	3	.30	18.15
Caroline	20	237	797.00	267.70
Carroll	3	15	103.00	31.85
Cecil	46	925 1/4	2,122.25	305.45
Charles	21	710 3/8	5,338.50	193.05
Dorchester	31	307 3/8	1,278.90	395.67
Frederick	35	622 3/8	1,957.47	1,003.97
Garrett	170	3,985	6,831.22	1,900.25
Harford	56	514 1/8	564.95	624.37
Howard	51	539 3/4	532.10	639.04
Kent	5	47 1/2	178.00	31.95
Montgomery	44	334 1/4	834.30	464.66
Prince Georges	194	998	3,249.91	1,736.75
Queen Annes	7	120	350.00	37.05
St. Mary's	27	649	3,718.25	273.52
Somerest	21	377 1/4	2,073.00	166.32
Talbot	12	44 3/4	158.50	76.95
Washington	39	366 1/8	1,136.35	493.63
Wicomico	45	744 1/4	2,022.00	634.65
Worcester	36	702 3/8	3,348.75	518.20
Total	1,265	16,711 3/8	48,952.24	15,071.99
False Alarms	237	---	---	526.96
	1,502	---	---	$15,598.95

*State and County each pay one-half of the expense.

TABLE III—CAUSES OF FOREST FIRES BY COUNTIES

January 1 to December 31, 1931.

County	Lightning	Railroad	Campers	Smoking	Brush burning	Incendiary	Lumbering	Miscellaneous	Unknown	Total	False alarms
Allegany	--	8	5	63	22	25	--	19	--	142	33
Anne Arundel	--	5	5	59	35	10	--	1	2	117	8
Baltimore	1	4	3	33	12	6	1	3	--	63	6
Calvert	--	--	--	1	--	--	--	--	--	1	--
Caroline	--	1	--	5	10	--	--	1	1	18	1
Carroll	--	--	--	4	1	2	--	--	--	7	--
Cecil	--	11	--	26	11	8	1	6	--	63	4
Charles	--	3	--	6	5	2	--	1	--	17	10
Dorchester	--	1	--	8	18	2	--	6	--	35	6
Frederick	--	--	1	7	8	6	--	3	--	25	1
Garrett	--	10	4	44	14	58	--	8	--	138	33
Harford	--	5	3	20	18	5	--	--	--	51	34
Howard	--	5	--	10	15	2	--	2	--	34	1
Kent	--	--	--	3	3	--	--	--	--	6	--
Montgomery	--	3	1	16	4	5	1	2	--	32	1
Prince Georges	1	29	4	64	49	24	--	10	--	181	10
Queen Annes	--	--	--	1	1	--	--	--	--	2	--
St. Marys	--	--	--	4	10	3	--	--	--	17	--
Somerset	--	--	--	11	7	--	1	2	--	21	3
Talbot	--	1	--	4	2	--	--	1	--	8	3
Washington	--	1	3	18	9	5	--	7	--	43	1
Wicomico	--	1	--	11	11	2	--	4	--	29	15
Worcester	--	--	--	13	14	2	--	7	--	36	13
Total	2	88	29	431	279	167	4	83	3	1086	183
Per Cent	--	8	3	40	26	15	--	8	--	100	--

TABLE III—Continued

January 1 to December 31, 1932.

County	Lightning	Railroad	Campers	Smoking	Brush burning	Incendiary	Lumbering	Miscellaneous	Unknown	Total	False alarms
Allegany	--	8	7	52	22	43	1	20	--	153	39
Anne Arundel	--	16	5	62	53	14	1	7	--	158	5
Baltimore	--	2	4	47	26	11	--	--	--	90	11
Calvert	--	--	--	1	--	--	--	--	--	1	--
Caroline	--	--	--	7	9	--	--	3	1	20	14
Carroll	--	--	--	3	--	--	--	--	--	3	--
Cecil	--	8	--	20	4	9	--	4	1	46	5
Charles	--	1	--	8	7	2	--	3	--	21	6
Dorchester	--	4	2	12	8	1	--	4	--	31	3
Frederick	1	--	2	10	7	12	--	3	--	35	2
Garrett	--	2	4	37	15	100	1	10	1	170	88
Harford	1	3	3	19	25	2	--	2	1	56	20
Howard	--	13	2	15	18	2	1	--	--	51	4
Kent	--	--	--	3	2	--	--	--	--	5	--
Montgomery	--	6	1	16	15	6	--	--	--	44	--
Prince Georges	--	27	2	73	62	23	--	7	--	194	5
Queen Annes	--	1	--	2	3	--	--	1	--	7	--
St. Marys	--	--	2	13	9	2	--	1	--	27	1
Somerset	--	1	--	9	5	3	--	3	--	21	3
Talbot	--	--	--	5	4	3	--	--	--	12	--
Washington	--	1	--	16	6	13	--	3	--	39	4
Wicomico	--	1	--	21	14	2	1	5	1	45	12
Worcester	--	2	--	14	10	3	1	3	3	36	15
Total	2	96	34	465	324	251	6	79	8	1265	237
Per Cent	--	8	3	37	25	20	--	6	1	100	--

TABLE IV—DAMAGE OF FOREST FIRES BY COUNTIES

January 1 to December 31, 1931

Cause	No.	Percent	Area	Percent	Damage	Percent
Lightning	2	----	------	----	--------	----
Railroad	88	8	2,042 1/8	7	$4,391.50	4
Campers	29	3	546 7/8	2	2,369,88	2
Smoking	431	40	8,806 1/4	31	35,983.28	36
Brushburning	279	26	8,772 3/8	31	29,939.02	30
Incendiary	167	15	6,764 3/8	24	16,141.73	16
Lumbering	4	----	100	----	612.00	1
Miscellaneous	83	8	1,368 3/8	5	10,627.55	11
Unknown	3	----	125	----	250.00	----
Total	1,086	100	28,525 3/8	100	$100,314.96	100
False Alarms	183					
	1,269					

January 1 to December 31, 1932

Cause	No.	Percent	Area	Percent	Damage	Percent
Lightning	2	----	1 1/4	----	$3.25	----
Railroad	96	8	1,356 3/4	8	6,735.08	14
Campers	34	3	301 5/8	2	836.22	2
Smoking	465	37	5,067 1/8	30	17,737.42	36
Brushburning	324	25	3,029 1/4	18	8,492.23	17
Incendiary	251	20	4,932	30	10,874.41	22
Lumbering	6	----	21 1/2	----	86.63	----
Miscellaneous	79	6	1,881 1/8	11	3,973.00	8
Unknown	8	1	120 3/4	1	214.00	1
Total	1,265	100	16,711 3/8	100	$48,952.24	100
False Alarms	237					
	1,502					

TABLE V—NUMBER AND PERCENTAGE OF FIRES BY DISTRICTS

January 1 to December 31, 1931	No.	Per cent
District I—Western Maryland—Allegany, Frederick, Garrett, Washington	348	32
District II—Western Shore—Anne Arundel, Baltimore, Calvert, Carroll, Charles, Harford, Howard, Montgomery, Prince Georges, St. Marys	520	48
District III—Eastern Shore—Caroline, Cecil, Dorchester, Kent, Queen Annes, Somerset, Talbot, Wicomico, Worcester	218	20
	1,086	100

January 1 to December 31, 1932	No.	Per cent
District I—Western Maryland—Allegany, Frederick, Garrett, Washington	397	31
District II—Western Shore—Anne Arundel, Baltimore, Calvert, Carroll, Charles, Harford, Howard, Montgomery, Prince Georges, St. Marys	645	51
District III—Eastern Shore—Caroline, Cecil, Dorchester, Kent, Queen Annes, Somerset, Talbot, Wicomico, Worcester	223	18
	1,265	100

TABLE VI—FIRES BY AREA CLASSES

January 1 to December 31, 1931

County	1-4 Acre or less	¼-10	11-100	101-1000	Over 1000	Total
Allegany	10	81	44	6	1	142
Anne Arundel	1	79	31	6	--	117
Baltimore	3	42	18	--	--	63
Calvert	--	1	--	--	--	1
Caroline	1	8	9	--	--	18
Carroll	--	4	3	--	--	7
Cecil	3	39	17	4	--	63
Charles	--	9	5	3	--	17
Dorchester	1	18	12	4	--	35
Frederick	1	15	6	2	--	24
Garrett	19	56	54	9	--	138
Harford	6	34	9	2	--	51
Howard	1	29	4	--	--	34
Kent	--	3	3	--	--	6
Montgomery	--	22	8	2	--	32
Prince Georges	11	134	32	4	--	181
Queen Annes	--	--	1	1	--	2
St. Marys	1	11	4	1	--	17
Somerset	1	12	3	5	--	21
Talbot	1	4	3	--	--	8
Washington	2	27	11	3	1	44
Wicomico	2	17	8	2	--	29
Worcester	6	13	13	4	--	36
Total	70	658	298	58	2	1,086

TABLE VI—Continued

January 1 to December 31, 1932

County	1-4 Acre or less	¼-10	11-100	101-1000	Over 1000	Total
Allegany	14	98	40	1	--	153
Anne Arundel	13	111	33	1	--	158
Baltimore	5	62	19	4	--	90
Calvert	--	1	--	--	--	1
Caroline	1	11	8	--	--	20
Carroll	--	3	--	--	--	3
Cecil	3	31	11	1	--	46
Charles	4	14	2	1	--	21
Dorchester	2	19	10	--	--	31
Frederick	1	23	10	1	--	35
Garrett	6	91	67	6	--	170
Harford	3	44	8	1	--	56
Howard	2	38	11	--	--	51
Kent	----	3	2	--	--	5
Montgomery	----	38	6	--	--	44
Prince Georges	23	153	18	--	--	194
Queen Annes	--	4	3	--	--	7
St. Marys	2	19	5	1	--	27
Somerset	--	14	6	1	--	21
Talbot	1	10	1	--	--	12
Washington	4	26	9	--	--	39
Wicomico	--	37	7	1	--	45
Worcester	1	23	11	1	--	36
Total	85	873	287	20	--	1,265

FINANCIAL STATEMENT

1931

State Appropriation, Fiscal year, 1931			$54,324.00
Receipts (Oct. 1, 1930—Sept. 30, 1931):			
Transfer: Roadside Tree Fund	$383.32		
Forest Reserve Fund	75.00		
		458.32	
Clarke-McNary (reimbursement)		10,745.48	
Fire expenses (reimbursement)		3,050.99	
Woodlot examination travel expense		13.24	
Miscellaneous		1,081.69	
		$15,349.72	
Interest		62.07	
			15,411.79
			$69,735.79
Disbursements (Oct. 1, 1930—Sept. 30, 1931):			
Salaries and wages		$47,200.03	
Travel		7,093.55	
Communication		1,656.39	
Transportation		100.74	
Rent		2,503.56	
Insurance		34.60	
Office supplies		1,505.16	
Printing		1,180.23	
Office equipment		796.91	
Field equipment		4,251.82	
Repairs to buildings		200.00	
Repairs to motor vehicles		1,105.27	
Supplies—Motor vehicles		750.00	
Seeds and trees		748.75	
			69,127.01
Balance, September 30, 1931			608.78
Reverted to State Treasurer: Interest		62.07	
		32.21	94.28
Carried forward			$514.50

FINANCIAL STATEMENT

1932

State Appropriation, Fiscal year, 1932		$82,405.07
Balance, carried forward from 1931		514.50
		$82,919.57
Receipts (Oct. 1, 1931—Sept. 30, 1932):		
Woodlot	19.20	
Damage Claims	45.00	
Fire expenses (reimbursement)	2,540.87	
Tower Contributions	1,455.44	
Miscellaneous	1,324.07	
Clarke-McNary (reimbursement)	14,079.20	
Transfer: Roadside Tree Fund	583.34	
Refund, duplicate payment	91.45	
	$20,138.57	
Interest	82.59	
		$20,221.16
Total Receipts		$103,140.73
Disbursements (Oct. 1, 1931—Sept. 30, 1932):		
Salaries and wages	$62,337.70	
Payment of loan	10,691.07	
Repairs—Motor vehicles	356.27	
Travel	1,393.92	
Freight and express	207.42	
Communication	1,283.27	
Office supplies	850.26	
Printing	1,154.30	
Supplies-Motor vehicles	1,435.60	
Office equipment	243.82	
Field equipment	198.48	
Rent	2,150.64	
Insurance	41.04	
Travel—Dist. Foresters	1,686.89	
Rent—Dist. Foresters	216.00	
Office equipment	83.48	
Office supplies	809.49	
Telephone—Dist. Foresters	360.20	
Telephone—Towers	503.41	
Fire Tools	3,094.10	
Travel—Forest guards	5,893.45	
Maintenance—Motor vehicles	1,203.04	
Repairs—Buildings	336.69	
Telephone—Patapsco	81.55	
Telephone—Garrett	54.12	
Seeds, trees and spraying materials	407.89	
Telephone—Nursery	82.20	
Tower expenditures from contributions	1,450.13	
		98,606.43
Balance, September 30, 1932		4,534.30
Reverted to State Treasurer (Retrench. Program)	$4,022.40	
Reverted to State Treasurer (Interest)	82.59	
		4,104.99
Carried forward to 1933 budget		$429.31

LAND PURCHASE AND TOWER CONSTRUCTION

1931

Balance with Comptroller October 1, 1930			$24,677.43
Available August 15, 1931			10,000.00
			$34,677.43

DISBURSEMENTS

LAND PURCHASE	ACRES		
Prince Georges County	512.50		
Charles County	2,118,50	$10,464.38	
Garrett County	5,979.26	3,014.63	
Allegany County	1,737.00	5,211.66	
Allegany County	394.25	1,182.75	
Allegany County	275.00	825.00	
	11,016.51		
Tower Construction		3,257.32	
Advanced to and due from Forest Reserve Fund		92.25	24,047.99
Unexpended balance with Comptroller Sept. 30, 1931			$10,629.44

1932

Balance with Comptroller October 1, 1931	$10,629.44

RECEIPTS

Due from Forest Reserve Fund	92.25
Available February 15, 1932	24,036.20
Redeemed land—Tax sale	99.96
Credit—Loss in bonds	963.80
Transferred from Forest Reserve Fund	192.02
	$36,013.67

DISBURSEMENTS

LAND PURCHASE	ACRES		
Garrett County	568.50	$1,705.50	
Garrett County—Tax sale (Redeemed)	314.00	96.13	
Garrett County	43.00	20.97	
Garrett County	150.80	301.60	
Garrett County—Tax sale	800.00	225.85	
Allegany County	11,777.00	20,130.44	
Allegany County	1,980.83	1,255.04	
Worcester County	740.00	4,758.20	
Land purchase expenses	----------	787.25	
	15,641.53		
Tower construction	----------	5,482.40	
Caroline County (Land for tower)	.50	61.00	
	15,642.03		$34,824.38
Unexpended balance with Comptroller Sept. 30, 1932			$1,189.29

APPENDIX

WOODLAND EXAMINATIONS

October 1, 1930—September 30, 1931

Date	Name	Address	Location	Acres
1930				
Nov. 6	Andrus, Leon A.	N. Y. City	Near Carmichael	250
Nov. 19	Nichols, R. W.	Mardela Spgs.	Near Mardela	15
Dec. 12	Bryant, M.	Townshend	Near Townshend	35
Dec. 15	Owings, Lloyd	Glenelg	Near Glenelg	65
Dec. 15	Kallenbach, Carl	Sykesville	Near Carr's Mill	25
1931				
Jan. 13	Brinsfield, Andrew	Trappe	Near Manadier	3
Jan. 15	Royer, Samuel	Cordova	S. E. of Cordova	50
Jan. 15	Symons, Robert	Easton	S. W. of Matthews	30
Jan. 28	Renshaw, L. H.	Rte. 6, Easton.	Miles River Neck	50
Jan. 28	Creswell, H. C.	St. Michaels	Near Pasadena	30
Jan. 30	Wiley, E. E.	Fishing Creek	Near Salem	50
Jan. 31	Collins, Mrs. C.	Hurlock	Near Waddel's Corner	75
Feb. 3	Bradley, Ira S.	Harborton, Va.	Williamsburg	140
Feb. 3	Goslee, Lester	R. F. D., Federalsburg	Near Federalsburg	50
Feb. 4	Krabill, J. W.	Denton	Near Denton	9
Feb. 4	Hinderer, Elias	Denton	N. W. of Denton	16
Feb. 4	Emerson, J. E.	R. F. D. 2, Denton	Bet. Two Johns -Concord	81
Feb. 5	Donahoe, J. P.	Massey	Near Massey	50
Feb. 6	Hanks, F. G.	Box 43, Elkton	Nr. Plum Creek, E. Neck	60
Feb. 12	Smith, George	Route 1, Annapolis	Iglehart	125
Mar. 21	Izaak Walton League	Cumberland	Frog Hollow	200
Apr. 23	Crapster, M. D. J.	Woodbine	Near Florence	15
Apr. 23	Crapster, P. W.	Woodbine	Near Florence	30
Apr. 27	Englar Family	Baltimore	Near Union Bridge	12
Apr. 27	Smith, John	Route 4, Union Bridge	Libertytown	10
May 26	Keene, Mrs. Z. A.	Golden Hill	E. of Golden Hill	5
				1,481

Summary

Allegany	1	200
Anne Arundel	1	125
Caroline	3	106
Carroll	1	12
Cecil	1	60
Dorchester	5	320
Frederick	1	10
Howard	4	135
Kent	1	50
Prince Georges	1	35
Queen Annes	1	250
Talbot	5	163
Wicomico	1	15
Total number of examinations	26	1,481

October 1, 1931, to September 30, 1932

Date 1931	Name	Address	Location	Acres
Oct. 31	Stevens-Baker Co.	Baltimore	Nottingham Farms, Poplar	1,600
Nov. 2	Lee, David	Bel Air	Near Bel Air	20
Nov. 2	Robert Crain Est.	Mt. Victoria	Near Mt. Victoria	400
Nov. 10	Brown, E. B.	Church Hill	North of Church Hill	15
Dec. 1	Rothensis, L. D.	Wilmington	Near Appleton	6
1932				
Jan. 28	Caroline County Home Farm	Denton	East of Denton	100
Jan. 28	Barroll, M. K.	Chestertown	Locust Grove	100
Feb. 3	Sattler, G. W.	Monkton	Corbett	35
Feb. 9	Long, Morris	Silver Spring	Near Norwood	11
Feb. 9	Thompson, Mrs.	Gaithersburg	Near Gaithersburg	2¼
Feb. 12	Tarbert, J. A.	Glencoe	North of Glencoe	20
Feb. 12	Whittingham, William	Glencoe	South of Hereford	125
Feb. 12	Brubaker, W. H.	R. F. D., Denton	Northeast of Denton	25
Mar. 18	Adams, A. N.	Clarksville	Dayton-Clarksville Road	12
Apr. 16	Coudon, Joseph	Perryville	Perryville	200
Apr. 16	Tome Institute	Port Deposit	Port Deposit	40
Apr. 19	Jarrell, W. F.	Chestertown	One mile south of Fairlee	60
July 18	Griffith Estate	Baltimore	Worthington Valley on Dover Road	90
Aug. 2	Shoemaker, E. A.	R. F. D., Woodbine	2½ miles south east of day	12
Aug. 3	Irving, Reid	Riverdale	2 miles east of Waterbury	30
Aug. 10	Knotts, J. O.	Denton	Northwest of Greensboro	75
Aug. 25	Nichols, Dr. S. A.	Clarksville	Green's Bridge	6
Aug. 25	Biddle, L. F.	Middletown	Near Middletown	2
Aug. 31	Harrison, O.	Tilghman	Tilghman Island	35
Aug. 31	Harrison, O.	Tilghman	Tilghman Island	2½
Sept. 16	Cooke, Mrs. A. G.	Waterbury	Near Waterbury	24
Sept. 16	Cooke, Mrs. A. G.	Waterbury	Near Waterbury	9
				3056¾

Summary

County	Number	Acres
Anne Arundel	3	63
Baltimore	6	1,882
Caroline	3	200
Carroll	1	12
Cecil	3	246
Charles	1	400
Frederick	1	2
Harford	1	20
Howard	1	6
Kent	2	160
Montgomery	2	13¼
Queen Anne	1	15
Talbot	2	37½
Total number of examinations	27	Total acres 3,056¾

TRACTS WHERE TIMBER WAS MARKED, MEASURED AND VALUE ESTIMATED

October 1, 1930, to September 30, 1931

Date 1930	Name	Address	Location	Acres
Nov. 19	Wetherald, Thomas E.	Bryantown	Bryantown	40
1931				
Jan. 15	Owings, Lloyd	Glenelg	Near Glenelg	65

Summary

County	Number	Acres
Charles	1	40
Howard	1	65
Total number of markings	2	105

October 1, 1931, to September 30, 1932

Date 1932	Name	Address	Location	Acres
Jan. 14	Talbot, Wm. E.	R. F. D. Clarksville	Near Dayton	26
May 12-17	Talbot, Wm. E.	R. F. D., Clarksville	Near Dayton	45
May 26	Day, L. S.	Mt. Airy	Bet. Browningsville and Kemptown	8
				79

Summary

County	Number	Acres
Howard	2	71
Montgomery	1	8
Total number of markings	3	79

TIMBER ESTIMATES

October 1, 1930, to September 30, 1931

Date 1930	Name	Address	Location	Acres
Dec. 12	Bryant, M.	Townshend	Townshend	35

Summary

County	Number	Acres
Prince Georges	1	35

THINNING DEMONSTRATIONS

October 1, 1930 to September 30, 1931

Date 1931	Name	Address	Location	Acres
Feb. 18	Turner, Jack	Nanticoke	Nanticoke	1/8

Summary

County	Number	Acres
Wicomico	1	1/8

PLANTING PLANS

October 1, 1930—September 30, 1931

Date 1930	Name	Address	Location	Acres
Nov. 6	Andrus, Leon A.	N. Y. City	Near Carmichael	4
1931				
Jan. 15	Royer, Samuel	Cordova	S. E. of Cordova	5
Jan. 29	Hackett, Kenneth	R. D. Federalsb'g	North of Eldorado	12
Feb. 5	Harris, Mrs. Evelyn	Betterton	Howells Point	10
Feb. 6	Elkton Armory	Elkton	Elkton	
May 13	Butterworth	Brandywine	T. B.	
June 24	Md. Game Refuge	Baltimore	Near Perryman	—
				31

Summary

County	Number	Acres
Cecil	1	
Dorchester	1	12
Harford	1	
Kent	1	10
Prince Georges	1	
Queen Annes	1	4
Talbot	1	5
Total number of planting plans.	7	31

PLANTING PLANS—Continued

October 1, 1931, to September 30, 1932

Date 1931	Name	Address	Location	Acres
Dec. 1	Rothensis, L. D.	Wilmington, Delaware	Near Appleton	1½
1932				
Feb. 2	England, E. R.	Rising Sun,	Near Calvert	12
Feb. 2	Gray, Oscar	Butler	Northeast of Butler	15
Feb. 3	Schmick, John	Preston	East of Preston	4
Feb. 3	Sattler, G. W.	Monkton	Corbett	12
Feb. 5	Sharp, Col. W. F.	Monkton	West of Monkton	15
Feb. 8	Shrewsbury Church	Care of M. K. Barroll, Chestertown	Kennedyville-Locust Grove Highway	--
Feb. 12	W. Denton Cemetery Association	Care of M. K. Newman, Denton	Denton	--
Feb. 20	Cameron, James A.	Brooklyn, N. Y.	Manokin	50
Mar. 4	Slaughter, W. W.	Cordova	East of Cordova.	10
Mar. 22	Whitaker Iron Co	Principio Furnace	Principio Furnace	8
Apr. 11	Griswold, B. H.	Baltimore	Bloodsworth Island	5
Apr. 12	Clagett, C. H.	Upper Marlboro.	Northwest of Upper Marlboro	3
Mar. 13	State Prison Farm	Board of Welfare, Baltimore	Near Roxbury	--
Aug. 25	Gilbert, Mrs. E.	W. Friendship.	Near W. Friendship.	4
Aug. 29	Beebe, Dr. S. O.	Lanham	Lanham	4
Aug. 30	Damesyn, Wm. F.	Baltimore	Near Bush Station.	30
				173½

Summary

County	Number	Acres
Baltimore	3	42
Caroline	2	4
Cecil	3	21½
Dorchester	1	5
Harford	1	30
Howard	1	4
Kent	1	
Prince George	2	7
Somerset	1	50
Talbot	1	10
Washington	1	
Total number of planting plans	17	173½

LECTURES

October 1, 1930, to September 30, 1932

*Illustrated. †Extension Service.

Date 1930	Location	Under Auspices
Oct. 8	Washington, D. C.	†Radio Station WJSV
Oct. 10	Seat Pleasant	Seat Pleasant Volunteer Fire Department
Oct. 11	Baltimore, Radio Station WCBM	Volunteer Firemen's Association
Oct. 14	Greater Capitol Heights	*Greater Cap. Heights Vol. Fire Dept.
Oct. 21	Washington, D. C.	†Radio Station WMAL
Oct. 24	Baltimore	*Troop 86, Boy Scouts
Oct. 27	Wilna	Wilna Parent-Teachers Association
Oct. 28	Easton	Girl Scout Troops
Nov. 3	Hereford	Hereford Volunteer Fire Company
Nov. 10	Baltimore	*School No. 6
Nov. 10	Upper Marlboro	Upper Marlboro Vol. Fire Company
Nov. 13	Violetville	*Violetville Vol. Fire Company
Nov. 14	Abingdon	Abingdon Vol. Fire Company
Nov. 15	Lanham	*Lanham Study Club
Nov. 17	Ryans Glades	†Garrett County Maple Products Asso.
Nov. 18	Bittinger	†Garrett County Maple Products Asso.
Nov. 19	Grantsville	†Garrett County Maple Products Asso.
Nov. 21	Baltimore	*Izaak Walton League
Nov. 21	B'klyn Hts. Baltimore	Boy Scout Troop 339
Nov. 21	Bel Air	Bel Air Volunteer Fire Company
Nov. 24	Wilna	*Parent-Teacher Association
Dec. 5	Hagerstown	Chamber of Commerce
Dec. 5	Hagerstown	Boy Scouts
Dec. 11	Baltimore	Vocational Guidance Counsel, B. C. C.
1931		
Jan. 5	Crisfield	Crisfield Fire Company
Jan. 5	Elkridge	*Forest Warden
Jan. 9	Baltimore	Forest Park High School Vocation Guidance Counsel
Jan. 13	Forestville	*Forest Warden
Jan. 15	Linthicum Heights	Community Fire Company, Inc.
Jan. 16	Baltimore	*Gas and Electric Company
Feb. 3	White Rock	*Forest Warden
Feb. 5	Blackhouse	*Blackhouse School
Feb. 6	Kitzmiller	*Civic Club
Feb. 6	Baltimore	*Men's Club, Shrine of the Little Flower
Feb. 9	High Rock	*Forest Warden
Feb. 10	Edgewood Arsenal	*Ashlar Club of Edgewood Arsenal
Feb. 10	Gilmore	*Forest Warden
Feb. 11	Sudlersville	Sudlersville Volunteer Fire Company
Feb. 11	Catonsville	*Catonsville High School
Feb. 11	Parkton	*Evna Community School
Feb. 12	Point of Rocks	*Parent-Teachers Association
Feb. 13	Lewistown	*Parent-Teachers Association
Feb. 16	Riverdale Heights	Riverdale Heights Vol. Fire Company

LIBRARY, UNIVERSITY OF MARYLAND

LECTURES—Continued

Date 1931	Location	Under Auspices
Feb. 16	Cavetown	*Forest Warden
Feb. 17	Sensenbaugh	*Sensenbaugh School
Feb. 18	Foxville	*Foxville School
Feb. 19	Highland	*Forest Warden
Feb. 20	Yellow Springs	*Forest Warden
Feb. 20	Baltimore	*Scout Troop 123
Feb. 23	Catoctin Furnace	*Forest Warden
Feb. 24	Riverdale	Riverdale Women's Club
Feb. 24	Yarrowsburg	*Forest Warden
Feb. 25	Sharpsburg	*Forest Warden
Mar. 2	Phillip's Delight	*Forest Warden
Mar. 3	Harmony	*Forest Warden
Mar. 3	Shane	*Patrons Club of Shane School
Mar. 6	Baltimore	South Central District, B. S. of A.
Mar. 11	Bladensburg	Prince Georges Volunteer Firemen's Asso.
Mar. 11	Perry Hall	*Parent-Teachers Association
Mar. 12	Laurel	Laurel Men's Club
Mar. 13	Laurel	Laurel High School
Mar. 16	Cumberland	*Y. M. C. A.
Mar. 16	Laurel	Laurel Volunteer Fire Department
Mar. 18	Jarrettsville	Jarrettsville High School
Mar. 20	Dundalk	*Men's Club of St. Georges Church
Mar. 24	Randallstown	Randallstown High School
Mar. 24	Upper Marlboro	Upper Marlboro Volunteer Fire Company
Mar. 26	Ellicott City	*Ellicott City High School
Mar. 27	Ilchester	*Donaldson School
Mar. 31	White Hall	*Parent -Teachers Association
Apr. 2	Cumberland	Izaak Walton League
Apr. 2	Fair Hill	*Parent-Teachers Association
Apr. 6	Baltimore	*Mt. Royal Garden Club
Apr. 8	Riverdale	Prince Georges Firemen's Association
Apr. 9	Baltimore	*School No. 47
Apr. 9	Sparks	†Agricultural Instructor, Sparks High School
Apr. 10	Baltimore	Forest Park High School
Apr. 10	Baltimore	*School No. 65
Apr. 15	Chase	*Parent-Teachers Association
Apr. 17	Denton	†County Agent
Apr. 21	Violetville	*Parent-Teachers Association
Apr. 23	Towson	*Rural Club, Towson Normal School
Apr. 23	My Lady's Manor	*Parent-Teachers Asso., Manor School
Apr. 25	Oldtown	Oldtown Farmers Club
Apr. 28	Relay	*Parent-Teachers Association
Apr. 30	Baltimore	Optimists' Club
May 1	Relay	*Relay School
May 5	College Park	Engineering Materials Class
May 6	Fairy Springs	*†Parent-Teachers Association
May 19	Willards	†Four H Club
May 19	Mt. Herman	†Four H Club
June 3	Baltimore	*Dunbar Junior High School
June 15	Tuxedo	*Tuxedo and Cheverly Fire Department
June 19	Bet. Ashton and Sandy Spring	*Izaak Walton League
June 19	Forestville	Forestville Volunteer Fire Department
July 17	Oakland	Rotary Club
Aug. 27	Joyce	Severn River Garden Club
Oct. 11	Reisterstown	Izaak Walton League
Oc . 13	Rossville	*Parent-Teachers Association
Oct. 15	Baltimore	*Men's League, Prince of Peace Church

LIBRARY, UNIVERSITY OF MARYLAND

LECTURES—Continued

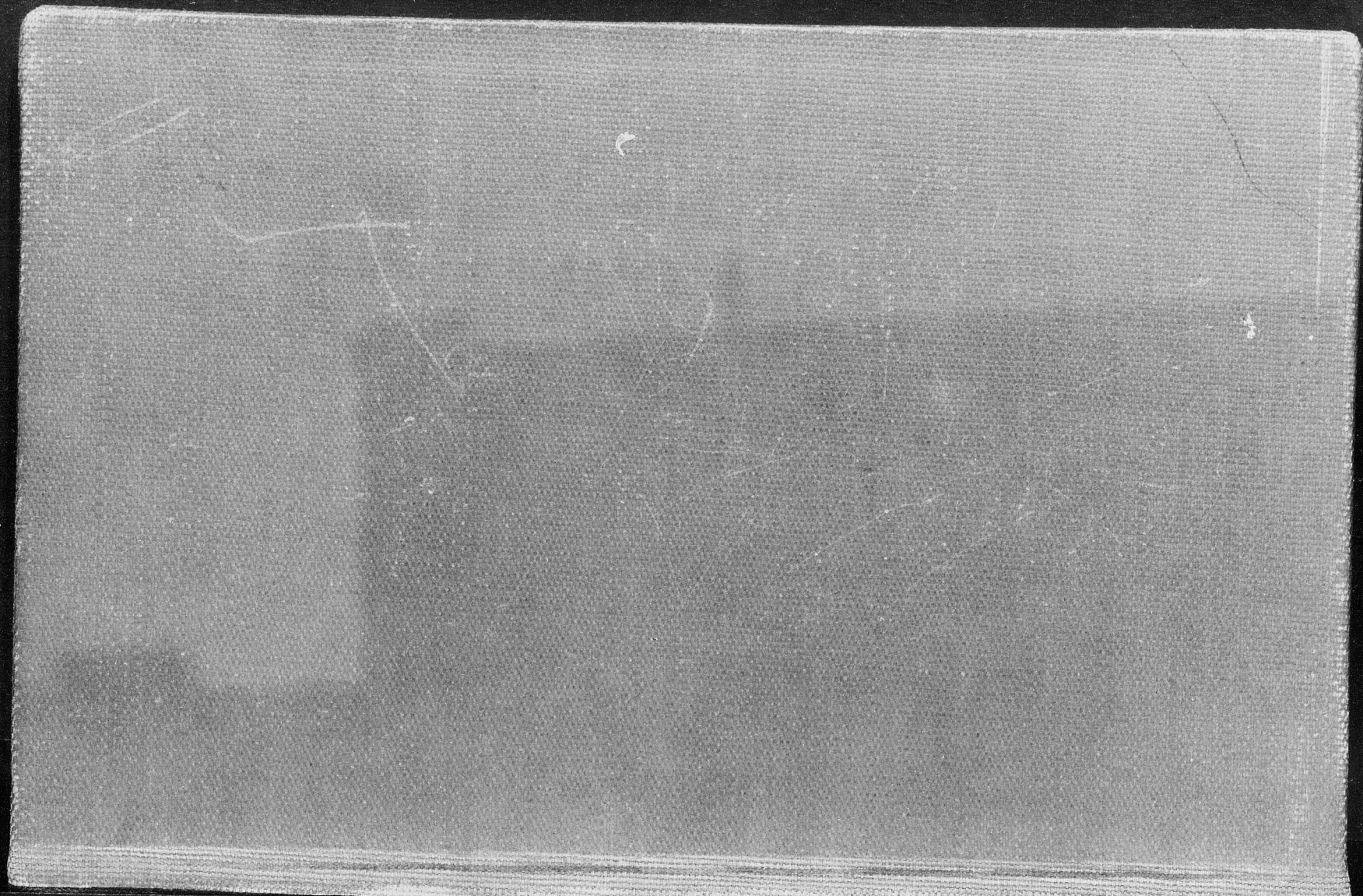
Date 1931	Location	Under Auspices
Oct. 21	Denton	Parent-Teachers Association
Oct. 22	Denton	Caroline High School
Oct. 22	Lutherville	Baltimore Co. Vol. Firemen's Asso.
Oct. 22	Baltimore	*St. James Ev. Lutheran Church
Oct. 23	Baltimore	Science Section, Teachers' Association
Oct. 28	Catonsville	*Catonsville High School
Nov. 9	Frostburg	*State Normal School
Nov. 10	Westminster	*Westminster High School
Nov. 12	Parkton	*Parent-Teachers Association
Nov. 13	Cumberland	Girl Scouts
Dec. 11	Brooklyn Park	*Scouts Troop No. 339
Dec. 17	Baltimore	*Knights of Columbus
1932		
Jan. 6	Catonsville	*Catonsville High School
Jan. 11	Princess Anne	Colored Farm and Homemakers Clubs
Jan. 12	Glen Arm	*Parent-Teachers Association
Jan. 12	Upper Marlboro	Upper Marlboro Vol. Fire Department
Jan. 13	Bittinger	†Garrett County Maple Products Asso.
Jan. 13	Ryans Glade	†Garrett County Maple Products Asso.
Jan. 14	Grantsville	†Garrett County Maple Products Asso.
Jan. 23	Laurel Heights	George Smitherman's Registered Crew
Jan. 29	Harlem Park M. E. Church	*Boy Scouts
Jan. 30	Baltimore	*Md. Association of Occupational Therapy
Feb. 3	Bel Air	Rotary Club
Feb. 3	Bel Air	*Harford Chapter, Izaak Walton League
Feb. 10	Riverdale	Riverdale Volunteer Fire Department
Feb. 11	Baltimore	Western District Boy Scouts
Mar. 2	Baltimore	*Boy Scout Troop 145
Mar. 3	Baltimore	*Boy Scout Troop 178
Mar. 5	College Park	Prince Georges Co. Vol. Firemen's Asso.
Mar. 10	Hagerstown	Izaak Walton League Reg. Conference
Mar. 10	Frederick	Lions Club
Mar. 14	Perry Point	*Parent-Teachers Association
Mar. 15	Germantown	*Parent-Teachers Association
Mar. 22	Unionville	Rural Women's Club
Mar. 25	Fallston	Fallston Grange
Mar. 29	Baltimore	*Enoch Pratt Library, Branch 15
Mar. 31	Baltimore	*Enoch Pratt Library, Branch 11
April 1	Baltimore	*Enoch Pratt Library, Branch No. 7
April 2	Baltimore	*Enoch Pratt Library, Branch No. 22
April 6	Bladensburg	Bladensburg Vol. Fire Department
April 7	Brooklyn, Baltimore	*Enoch Pratt Library, Branch No. 23
April 7	Baltimore	*Junior High School No. 47
April 8	Sparrows Point	High School
April 8	Hereford	*Parent-Teachers Association
April 8	Baltimore	*Enoch Pratt Library, Branch No. 13
April 11	Baltimore	*Enoch Pratt Library, Branch No. 20
April 12	Pasadena	*Parent-Teachers Association
April 13	Forestville	Prince Georges Co. Vol. Firemen's Asso.
April 14	Baltimore	*Enoch Pratt Library, Branch No. 16
April 14	Laurel	Izaak Walton League
April 20	Chase	*Parent-Teachers Association
April 21	Snow Hill	Snow Hill Woman's Club
April 21	Snow Hill	Snow Hill Woman's Club
April 22	Baltimore	*School No. 83
April 25	Baltimore	*School No. 10
April 25	Rosedale	Rosedale Vol. Fire Company

LECTURES—Continued

Date 1932	Location	Under Auspices
April 25	Laurel	Laurel Fire Department
April 26	White Hall	*Parent-Teachers Association
April 26	Baltimore	*Natural History Society of Maryland
May 2	Baltimore	*Business and Professional Women's Club
May 4	Westminster	Westminster Volunteer Fire Department
May 5	Baltimore	*Holy Name Society, St. Anthony's Chur.
May 10	Havre de Grace	*Havre de Grace Kiwanis Club
May 11	Baltimore	*School No. 49, 6th Grade
May 11	Baltimore	*School No. 49, 7th Grade
May 11	Cape Charles, Va.	Del-Mar-Va Volunteer Firemen's Asso.
May 11	Towson	*Kiwanis Club, Towson
May 12	Salisbury	Salisbury Rotary Club
May 18	Bentley Springs	*Parent-Teachers Association
May 25	Baltimore	Engineers Club
June 2	Centreville	Rotary Club
June 7	Shawsville	*Shawsville Grange
June 7	Reisterstown	†Vocational Agricultural Classes
June 7	Sparks	†Vocational Agricultural Classes
June 17	Baltimore	Radio Station WFBR
June 22	Druid Ridge Cemetery, Baltimore	Cemetery Officials Association
July 19	Frederick	Frederick Kiwanis Club
Aug. 5	College Park	†*4H Club Week
Aug. 6	College Park	†*4H Club Week
Aug. 9	Denton	†Denton Rotary Club
Aug. 9	Govans	*Govans Garden Club
Sept. 1	Easton	†*Easton Grange
Sept. 2	East New Market	†*East New Market Grange
Sept. 13	Bowie	Prince Georges Co. Vol. Firemen's Asso.
Sept. 16	Baltimore	*School No. 231
Sept. 26	Easton	Easton Grade School
Sept. 26	Trappe	Trappe Grade School
Sept. 28	Trappe	Trappe High School

DO NOT CIRCULATE

UNIV. OF MD COLLEGE PARK
3 1430 04273614 2

00149

DO NOT CIRCULATE